Model Boats

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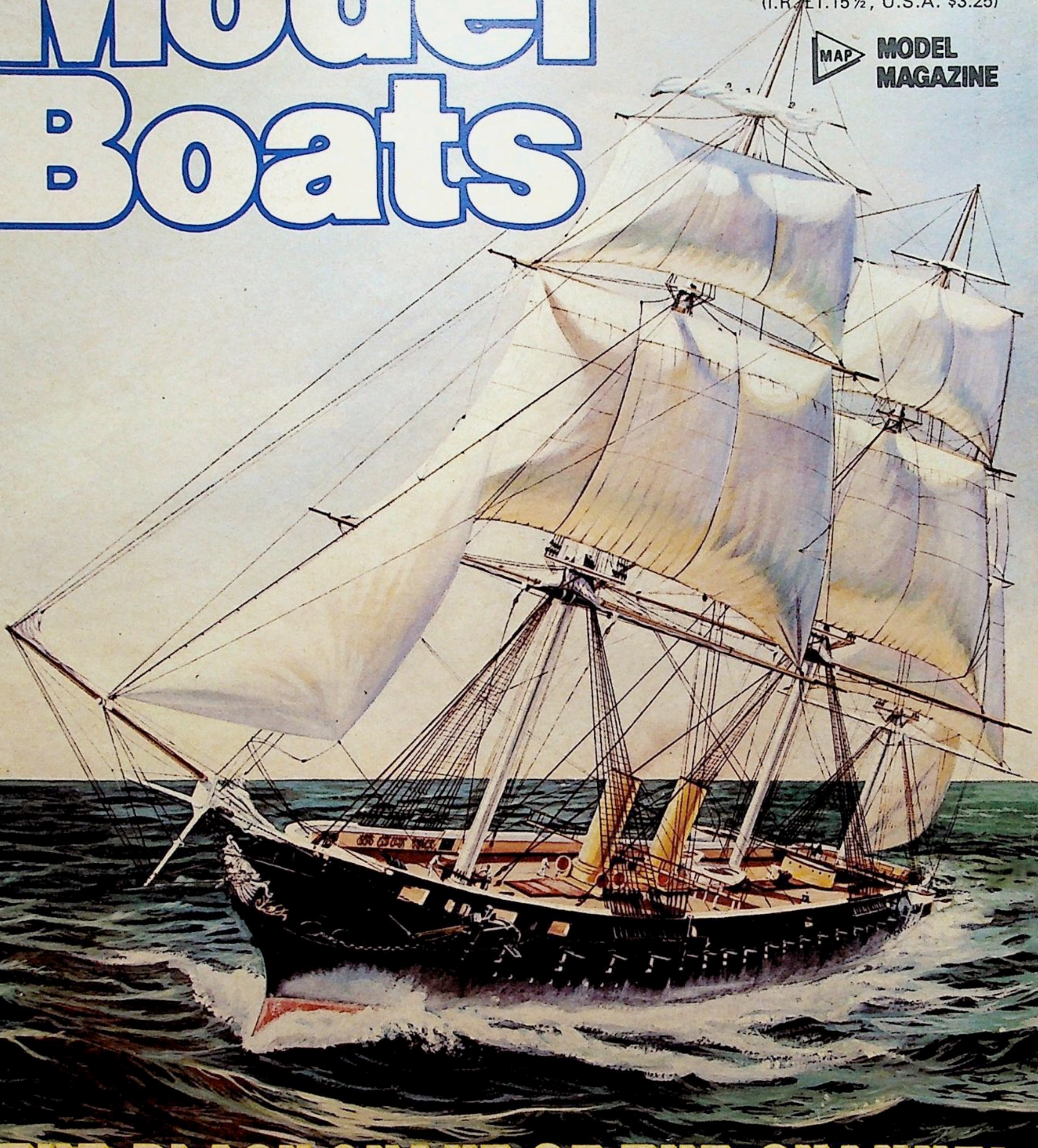
MAP MODEL MAGAZINE



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Cover
Our superb cover illustration of *H.M.S. Warrior* steaming through the English Channel, was painted by Ross Watton a 2nd year Technical Illustration student at Bournemouth and Poole College of Art and Design.

Correspondence anticipating a reply must be accompanied by a stamped, self-addressed envelope or equivalent. Forthcoming events should be notified at least seven weeks before publication date and are included as space permits. Prospective contributors are invited to send a self-addressed, stamped envelope for copy of our 'Model Boats Guide to Contributors.'

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ABC

MAP

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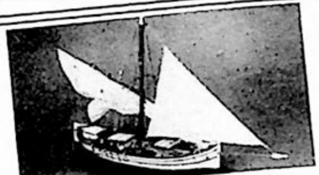

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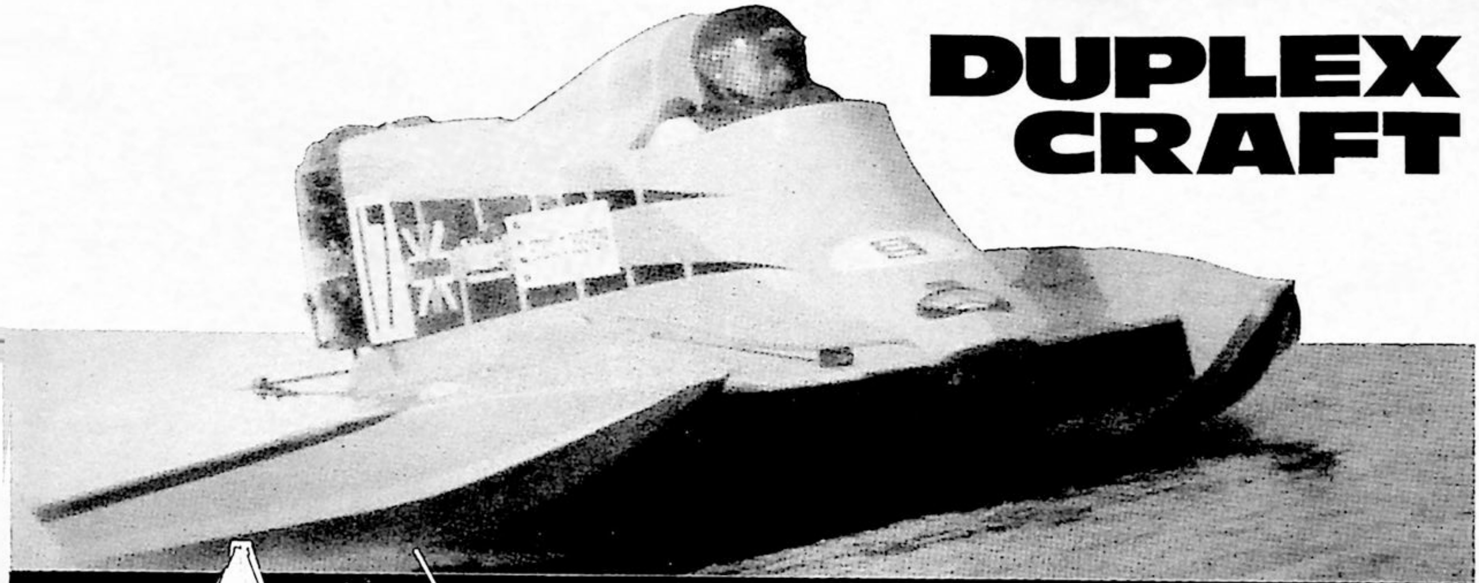

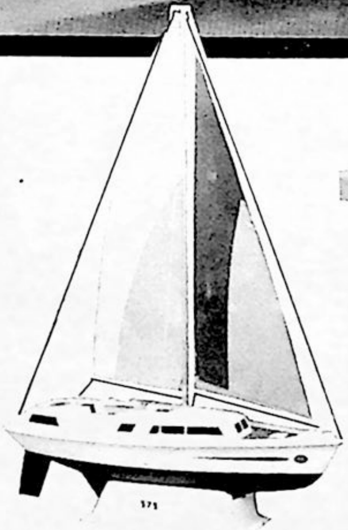

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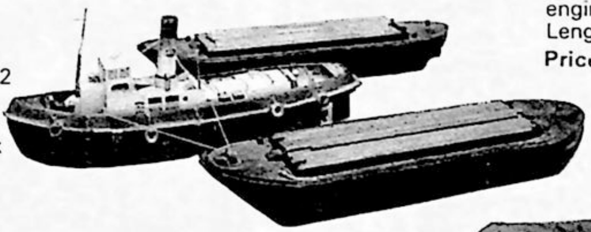

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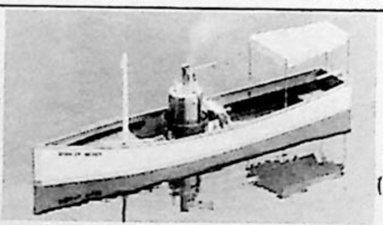

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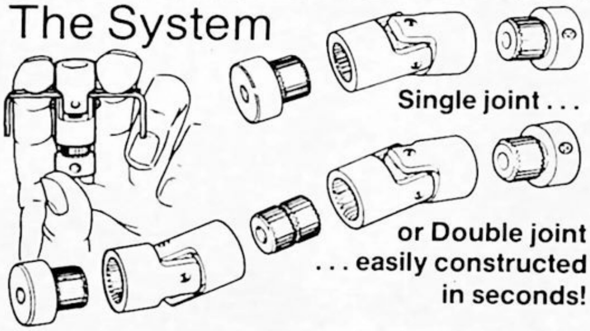

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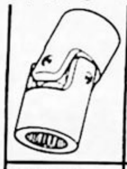	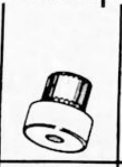	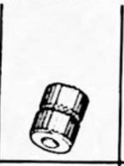	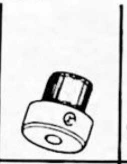	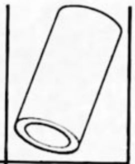
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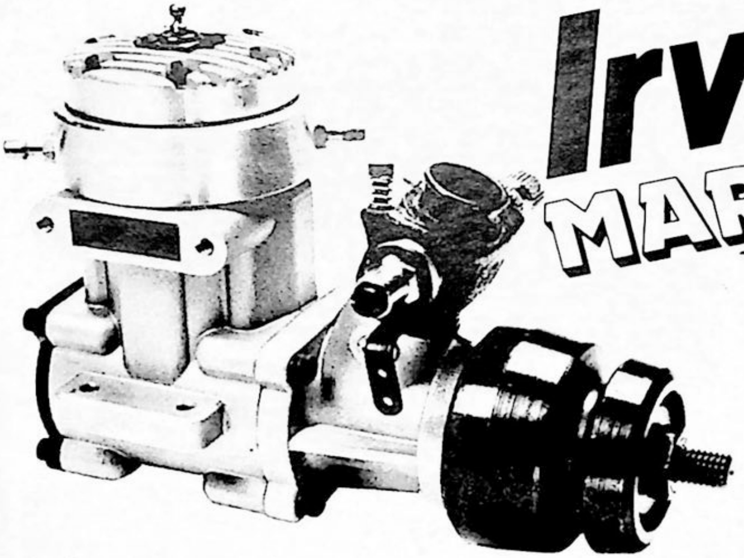

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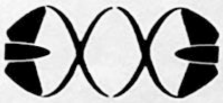

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Other new items this month are the Robbe Norderney 49" Survey ship featuring the optionally deck mounted and R/C operated crane lowered sounding tender Mowe **£136.46** complete with fittings. Also in stock Graupner THYSSEN II 27" push/pull Tug 1:38 for 1 or 2 Voith Schneider propulsion units kit **£49.80.** Fittings **£25.20,** drive units **£49.95** each. New book is "Working Boats of Britain" by McKee **£15.00** + £2.00 p&p.

LISTS AVAILABLE: Timber **45p;** Fittings **45p;** Hulls **85p**.
Send S.A.E. for listings of plans catalogues available.

Post and Packing is additional to all quoted prices and enquiries must be accompanied by S.A.E. or International Reply Coupons. Prices shown include V.A.T.

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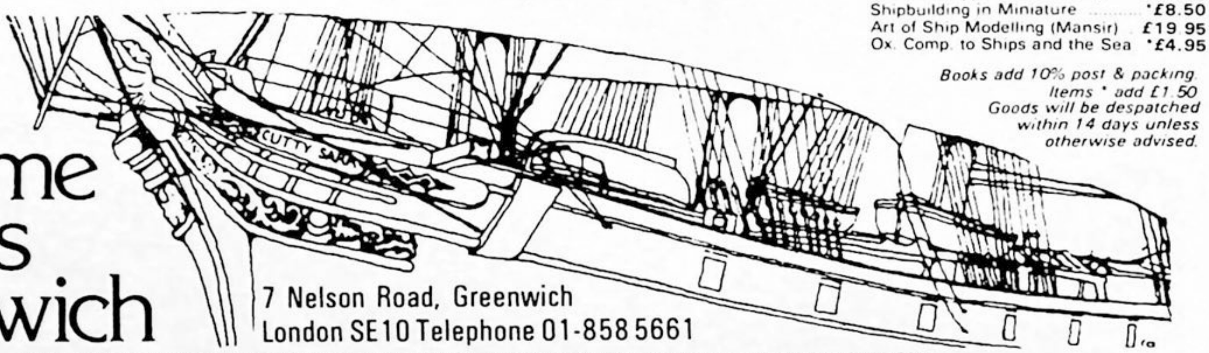

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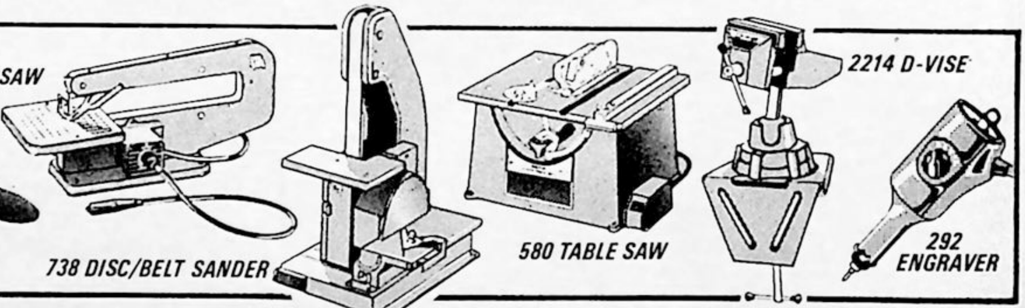

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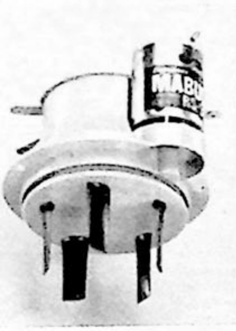

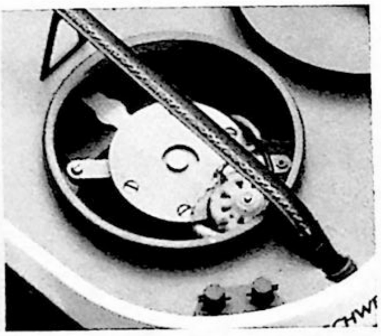

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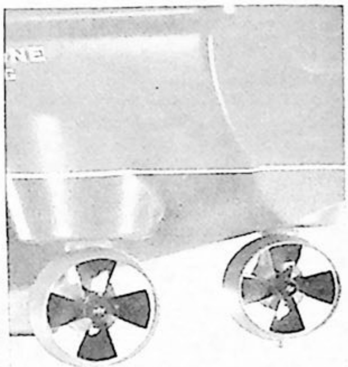

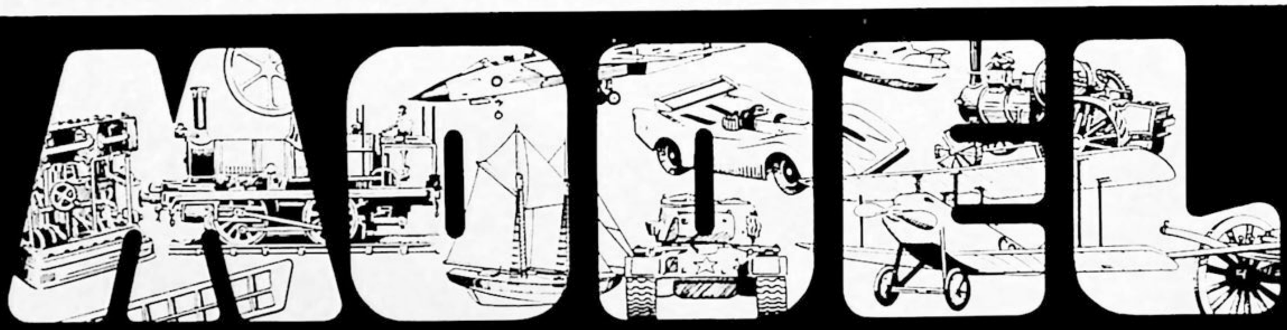

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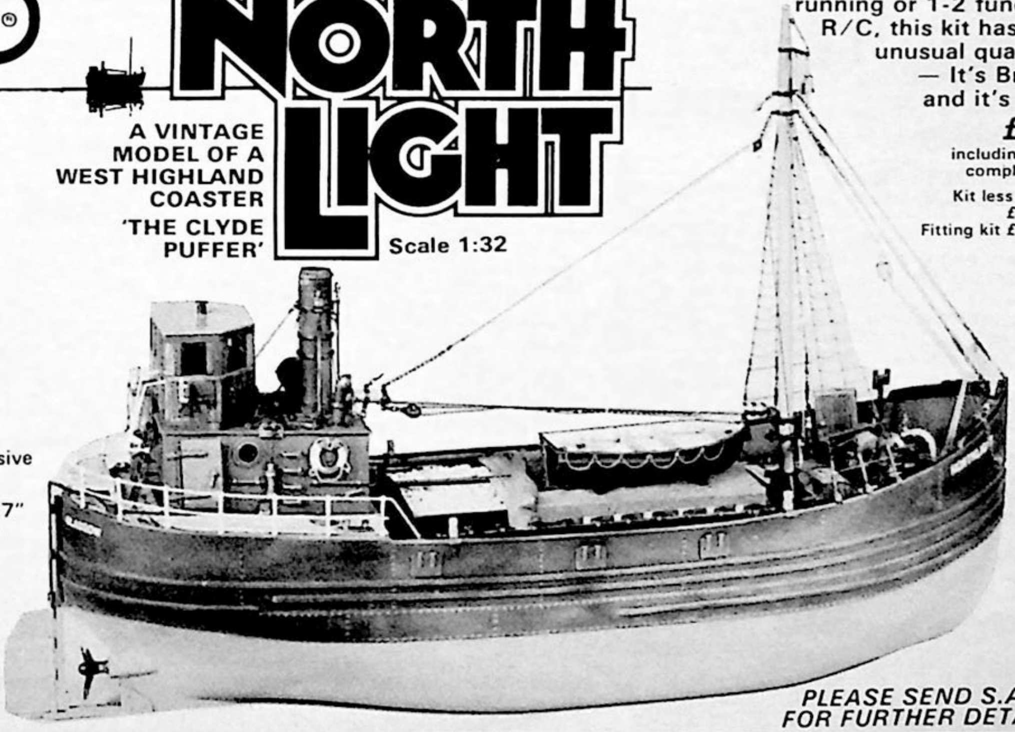

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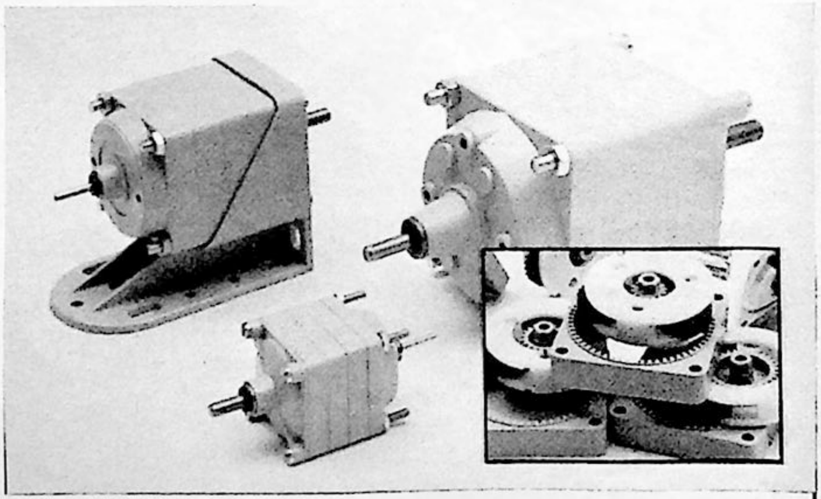

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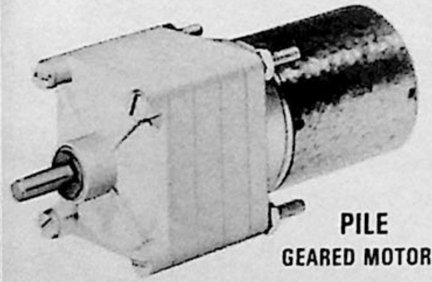

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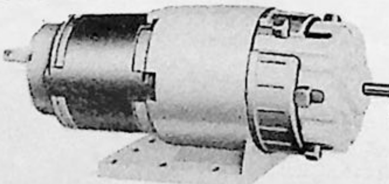

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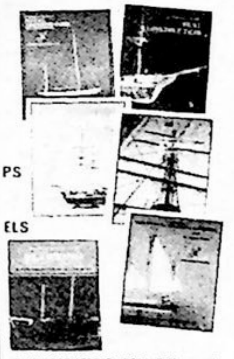

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ALL POINTS

Club of the Month

Gosport Model Yacht and Power Boat Club

The following particulars have been furnished by Mr. T. Rittey:

The club celebrated its Diamond Jubilee in 1982 and until 1975 was exclusively for vane and radio controlled yachts. It has since then opened its doors to model power boaters and total membership now comprises some 90 bodies.

The club's sailing water is one of the two international model yacht ponds in the country and every alternate year the club is host for the A Class regatta championships. This event attracts visitors from all over England and the continent. The venue is also very popular with the multi fraternity. Events in the past have been attended by people from as far away as London, Brighton, Bristol and Torquay.

Power boating interests cover a wide spectrum: scale, semi-scale, fast electric, multi, offshore, hydroplanes and submarines. The main sailing season lasts from mid-March until the end of October, the off-shore members taking advantage of the winter gales until the lake is drained in December.

The club has its own clubhouse and boathouse adjacent to the pond. Club evenings are held on the first Friday of each month.

Further information is available via the club secretary Mrs. J. Bullivant, 8 Melville Road, Gosport.

Society and Club News

The Washington Ship Model Society will hold an exhibition of approximately 75 models, including replicas of ships from the Viking era up to the present day, from October 1, 1983 until mid-January 1984, at the Bicentennial Center in Alexandria, Virginia.

In addition, the Washington Ship Model Society will host the Tenth Annual Conference of the Nautical Research Guild on the weekend Friday 14 to Sunday 16 October at the Old Colony Inn in Alexandria. The Conference theme will be "Applying the Research of 1982 to Model Construction" and the event's technical programme on October 15 will include "Plank and Frame Techniques" by Harold M. Hahn, "Construction of Official US Navy Models" by Colan Ratliff, "Construction of Smithsonian's Philadelphia Model" by Howard Hoffman, "Construction of the Civil War *Monitor*" by Thomas E. Tragle, Jr., "Construction of the *HMS Elizabeth* Model (1706)" by Robert V. Bruckshaw and "Construction of a Motor Yacht" by Alfred Seebode.

On the morning of October 16 the Conference will continue in the morning with round-table discussions.

Non-Guild members who are interested in registering for the NRG Conference should send a self-addressed, stamped envelope (USA readers or International Reply Coupon, UK readers) to Merritt A. Edson, 6413 Dahlonega Road, Bethesda, Maryland 20816.

* * *

Scale Secretary of the Hull Model Boat Club wishes to advertise the fact that the club's tug towing regatta on August 21 is for two-man teams and is being sponsored by United Towing Ltd. of Hull. Pre-entry to Scale Secretary, Mr. A. J. Scaife, at 22 Berkshire Street, Buckingham Street, Hull, HU8 8TJ, North Humberside, or entry on the day, the cost of which is to be decided later.

* * *

A new club has been formed called the Paisley Model Powerboat Club based at Durrockstock Park in Foxbar, Paisley, having the use of a large pond, approximately 200m square, well sheltered with a neat jetty for launching the boats. It is anticipated that membership will increase as the season progresses to join the present seven.

Annual membership is £4.00, which figure includes third party insurance (MPBA).

The club meets every Sunday and during Wednesday evenings in the summer. It is also hoped to obtain permission from the local council to use the pond on Saturdays and casual use of the pond during the week by club members. Use of the pond is, incidentally, provided free by Renfrew District Council, to whom the club is very grateful.

Two regattas are planned for this year, on August 28 and October 16, for A, B, C and SI.

The Secretary stresses that the pond is for multi-boats only and that no attempt is made to cater for scale or sail.

* * *

Milton Keynes Model Society's new secretary is D. J. Meadows, 8 Drayton Road, Newton Longville, Milton Keynes, Tel. 0908 70676.

* * *

The Leeds and Bradford Model Yacht Racing Club are hosting a scale boat regatta on July 24, starting at 10.30am. The venue is Larkfield Tarn, Canada Road, Rawdon, Leeds and the person to contact for participation is Terry Costigan, 1 Low Ash Crescent, Wrose, Shipley, Yorkshire, Tel. Bradford 592887.

* * *

The Isle of Wight Model Engineering Society is to hold a one day exhibition on Saturday, July 30 at the College of Arts and Technology, Newport, from 10.00am to 6.00pm. The exhibition will embrace the usual wide range of modelling and enthusiasts who may be on holiday in the island on that day will find much of interest in spacious surroundings. Admission: 50p adults, 30p children; free parking.

* * *

A new attraction and competition for model boaters will take place at the Border Counties Model Spectacular, Eastnor Castle, Ledbury, on August 12 and 13.

In the past, spectators have admired r/c ducks, kettles etc. New, original and funny entries are wanted to keep the crowd amused on this two-day event. Models are to be powered using a minimum of two-channel radio, any size. Clubs and display teams are welcome. Trophies for first, second and third are to be donated by OMI. For details send sae to H. F. Middleton, 5 Brinsmead Road, Knighton, Leicester, LE2 3WD. Shops and manufacturers requiring further information should please send their sae to D. T. Prosser, 80 Quarry Road, Hereford, HR1 1ST.

* * *

Kingfisher becomes a limited company

Following the recent MPBA decision to further protect its membership by becoming a limited liability company the Kingfisher Model Boat Club is now operating as the Kingfisher Model Boat Club Ltd. The decision to do this was taken approximately six months ago and came into effect on February 8.

Kingfisher, by which name the club is more commonly known, has been in existence for a little over ten years and its aims are to promote enjoyment of radio-controlled model boats in as wide a variety as is practicable. Whether it be the most graceful scale model or the most humble piece of plastic, as long as it gives its owner pleasure, he or she will be welcome at the club.

The lake, near North Camp railway station, Farnborough, Hants was built by club members and provides the setting for scale, multi, and 575 yacht activities with the recent addition of fast electrics.

Offering such diverse areas of interest, the intention is boating for pleasure, some of the members having achieved success in both national and international competitions.

Each season the club hosts several open regattas in addition to the club's own events, the most notable being the RNLI regatta. The proceeds from this event are donated to the Royal National Lifeboat Institution.

The club meets monthly on the first Saturday evening of each month at either the lakeside or in the clubroom of The Old Ford public house, North Camp, Farnborough, Hants.

In common with many clubs, Kingfisher extend a welcome to new or prospective members and anyone interested in joining their happy band can obtain details from Membership Secretary, Mr. C. Bainbridge, 67 The Chantrys, Farnham, Surrey.

* * *

Due to circumstances beyond their control it was impossible for Manchester R.C.M.C. to hold the speed steering Championships on June 5th. The competition is rescheduled for September 4th at Heaton Park, Manchester.

* * *

Company news

Hinchliffe Models Ltd. are pleased to advise that they are now manufacturers of the yacht

Mickey Finn. The model is expected to become available some time in June under the name of **Calder Craft** at a price to be announced.

We understand that another yacht and a Clyde Puffer are on the way, details of which will be available shortly.

* * *

New Voyager

New Voyager's fourth great issue!

"May the Force be with you" could be the subtitle of the Summer edition of *New Voyager* on sale from June 17. To coincide with the UK release of the third Star Wars film, "Return of the Jedi," this issue contains a special 16 page Jedi feature which includes nine full colour pages. Plus: the first scripts of "Star Wars" and how to model Boba Fett's Slave I ship from "The Empire Strikes Back." All this *and* a Jedi contest, the Planet Mercury, new space models, video games, home computers, SF conventions and much more in a packed 76 page issue. Price £1.25 or, in case of difficulty, £1.55 from **MAP Ltd.**, Wolsey House, Wolsey Road, Hemel Hempstead, Herts HP2 4SS.

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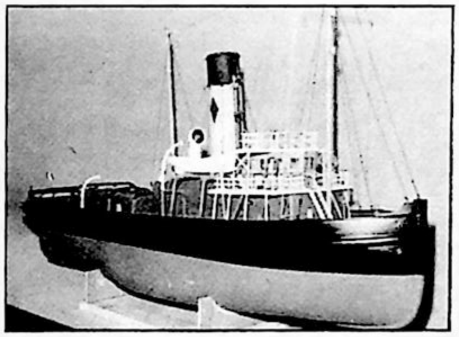
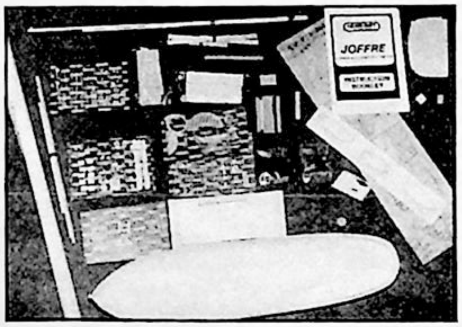




The steam tug *Joffre* was first presented as a **Model Boats** Plan feature in our September 1981 issue. The ¼in. to 1ft. Tyne tug was an instant success amongst our many scratch-building readers. We were pleased when **Calder Craft Model Kits** *decided to produce a kit of Joffre*, particularly as they would be able to bring their renowned expertise in metal casting techniques to the fine deck detail proffered by *Joffre*. The resultant fittings are better than we could have even imagined. There are 200 white metal castings plus stanchions, pins and chain. There is very little, if any, flash on the castings and the detail is very fine. The hull is a one-piece glassfibre moulding, some 30¼in. long by 7in. beam and includes cast-in bulwarks. Decks are printed ply and the superstructure is vacformed styrene, as are the three ship's boats. Other items include propshaft and prop, dowelling, die-cut bulkheads, necessary stripwood and a packet of coal! suitably scaled of course.

The instructions are very detailed and refer to a numbered full-size plan and 10 exploded detailed views of deck fittings, rigging, etc.

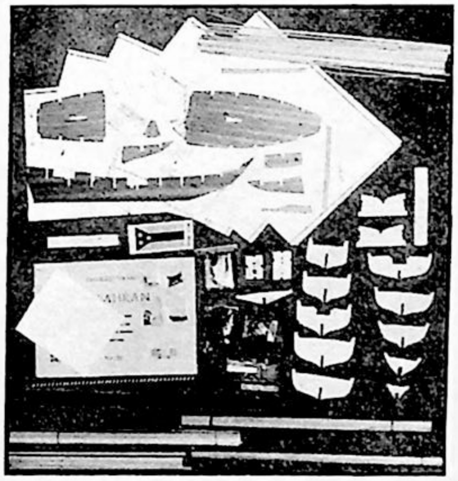
There are notes on fitting radio-control and on ballasting and trimming the model and the full-size plan depicts suggested positions for radio, servos, batteries, motor, etc.

The whole kit is well packed to prevent transit damage and full colour views of the box lid are a good aid to final finishing.

This impressive kit from **Calder Craft Model Kits** is available from good model shops and retails at £88 including V.A.T.

* * *

SAMBUCO ARABO
AL BAHRAN
SCALA 1:50
SM 56



Wooden ship kit modellers will need no introduction to the Italian **Corel** range, distributed by **Euro Models.** A recent introduction is the *Al Bahran*, a 1:50 scale dhow (actually known as a sambuq), giving a model 575mm long by 465mm high and 125mm wide. The prototype vessel plied its trade along the coastal routes of East Africa and the Indian Peninsula from the 15th Century onwards. This model is based on drawings and photos of a vessel still trading at the end of the nineteenth century and from present-day examples.

The box is illustrated with a full colour illustration and contains two moulded plastic trays carrying all the components. The vast majority of parts are well cut from excellent quality timber; the stripwood is pliable and includes dark stained strips for the upper hull planking and a striped strip for the decorative planking. Dowels are supplied for masts, rigging cord is included, plus all the necessary small fittings such as barrels, rigging blocks, flag, guns and anchor. A suitable length of cloth is supplied for sail manufacture.

The instructions are provided in four languages and the English version is understandable, despite one or two translation funnies. There is general and detailed advice given plus a colour scheme if you do not wish to leave the model in its bare wood format.

It would be possible for experienced builders to construct the model entirely from the exhaustive plans supplied. There are no less than eight sheets covering every stage of construction. This excellent kit fully upholds **Corel's** excellent reputation and retails at £34.50.

* * *

AEROPOXY
AEROPOXY

Low viscosity finishing and laminating expoxies are receiving considerable attention in the model aircraft fields, being used for wing and fuselage skinning, veneer/foam wing bonding, fuel-proofing and general construction.

The epoxy is supplied in the usual two part format as resin and hardener. The most noticeable difference from standard epoxy is the resin viscosity which is not too far removed from that of a light machine oil.

Mixing takes place in a 3:2 ratio (3 parts resin to 2 parts hardener) and a suitable mixing cup is provided in the *Aeropoxy* pack from **Deluxe Materials**, distributed by **Irvine Engines.**

The pot life is approximately one hour at room temperature and the tack free time is 8 hours. Full cure takes 36 hours after which sanding and or burnishing can take place. However cure time can be dramatically reduced as explained in the pack instructions. This epoxy is compatible with wood, veneers, white and blue foam, glass cloth, kevlar, carbon-fibre, and microballoons.

The epoxy can be easily brushed and excess resin removed from large areas by rolling a pack of absorbent toilet tissue over the surface.

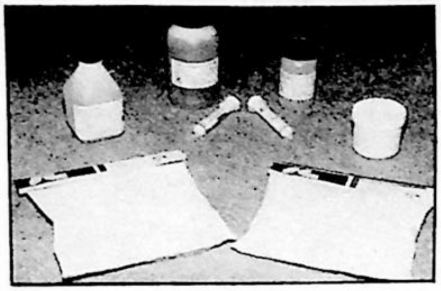
The obvious use of this material is to fuel-proof and seal/toughen boat hulls, plus bonding applications where laminating is called for. It can also be used to fill and reinforce joints. One of the prime uses for model aircraft is skinning of wings, giving a strong, lightweight unit. A number of model yachtsman have realised the potential with hull construction and we expect to see more use of this product in this area.

The *Aeropoxy* pack costs £4.99 including V.A.T. from model shops.

* * *

It never rains but it pours! No sooner had *Aeropoxy* arrived in our offices than we received samples of epoxy and related products from **Smith and Gibbs**, a company who wish to promote and distribute their materials through the hobby trade. (Trade enquiries via our offices).

The company specialises in boat repairs and chandlery and their *SP113 Epoxy Flow Coating and Laminating Resin* has been specially formulated for model builders. Most of the foregoing comments re *Aeropoxy* apply to *SP113*. However



the mix ratio is 3 parts of resin to 1 part of hardener and two 10ml syringes supplied with the pack allows this to be done accurately. **Smith and Gibbs** claim that as their resin is formulated to resist the degrading effects of ultra-violet light, it can be cut back and burnished to give a mirror-like surface.

If used as a laminating resin, it can be thickened to gel coat consistency by the addition of a little colloidal silica, available in 500cc packs at £1.18 retail.

To use as a filler, microspheres are available for mixing in to the resin at £1.80 for 500cc.

Also available is pure acetone (250mls at £1.04) for degreasing laminates/coatings and cleaning brushes and tools and finally a hand cleansing cream in 100ml tubs (99p) for the removal of resin, paints and adhesives.

The resin will be available in 500 and 250gm packs costing £6.95 and £4.25 respectively.

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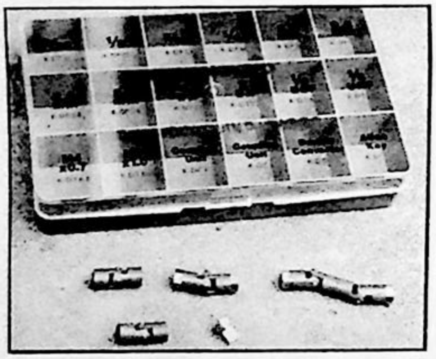
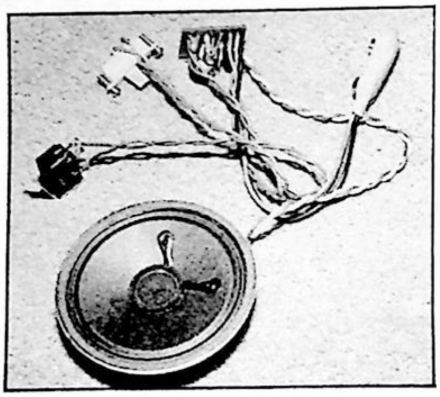


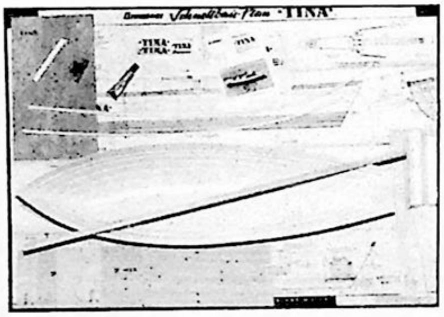
A new range of 'Do-It-Yourself (DIY) couplings (similar to **Ripmax's Huco**) have been launched by **Ripmax**. They are available in individual boxes complete with hexagon ket and instructions or as DIY parts from a convenient labelled box dispenser at your local model shop. The couplings feature the universal plastic unit into which splined brass inserts or a double converter insert can be located. The inserts are six-sided to allow a spanner to be used for locking onto the shaft. They are available in a variety of bores and threads which should suit any modelling application.

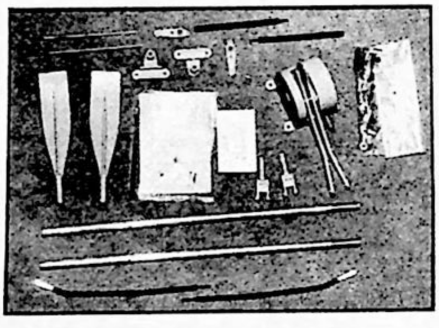
Price for complete couplings is £1.85 each, coupling unit is 70p double converter 15p and inserts 50p each. The box, by the way, is available separately, but without logos, at £2.95.

* * *

Kyosho have produced an electronic sound generator to reproduce a modern motor boat engine noise together with a siren or hooter. The unit requires a 5 to 10 volt DC supply and comes wired with a PP9 type battery plug, on/off switch and microswitch. The microswitch is positioned adjacent to a servo, and operation of the switch brings the hooter noise in, over and above the pop-pop. The motor sound is realistic and although there is a frequency adjustment for the hooter, the latter is not quite as effective. Instructions in the way of illustrations are given re amplifying the sounds by way of a sounding box, otherwise the volume of noise would very soon be lost in open surroundings. Distributed to model shops by **Ripmax**, the **Kyosho** *Pon Pon Sound* retails at £8.95.







We first reported on the Graupner *Rowing Boat Tina* in the summer of last year following its release at the 1982 Nuremberg Toy Fair. It has at last reached UK model shops, distributed by **Ripmax**. *Tina* is 920mm long by 225mm wide and weighs in at 3.1kg. She is modelled on a typical inland rowing boat and is moulded in ABS, as is the seat and motor cowling. The inwhales, floor, etc., are from die-cut ply and the floor is used to mount and hide the rowing mechanism, receiver and servos.

The drive mechanism for the oars is powered by an electric motor and the ingenious cam type mechanism allows for independent operation of each oar by raising it above the water's surface, hence permitting the boat to turn.

The boat kit costs £31.95 and the fittings kit containing the rowing mechanism retails at £32.75. A drive motor is required; either a *Mabuchi* 380S or a *Monoperm Super*. Also required is a coupling plus batteries (two 4 volt, 1.2 amp/hour). The man is not included but we understand he will be available as a separate purchase at a later date.

This is a very different model which will certainly attract the crowds, is well documented with full-size plans and full instructions.

Two-function radio is required; one servo controls the forward/astern, the second operates the oar mechanism to effect turning.

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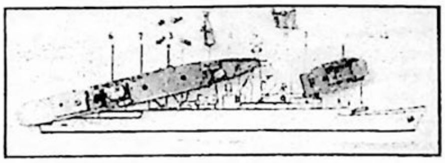

Skytrex Ltd. of 89/91 Nottingham Road, Loughborough, Leics. have introduced a fine new range of *Triton* 1:1250 scale metal warship kits. The detail is exceptionally good and the range includes contemporary RN vessels such as *Invincible, Hermes, Brilliant, Plymouth* and many more. Prices range from £2.50 to £2.95; excellent value.

* * *

PRINT OUT

The
Mayflower
AND OTHER COLONIAL VESSELS
William A Baker

William A. Baker was a recognised authority on the design and construction of 17th century ships. His name first became widely known when he designed the replica *Mayflower II* which was successfully sailed across the Atlantic in 1957, and he went on to design a number of typical 17th century small craft. The fruits of his research were published in a series of excellent books, but, as his work progressed, Baker naturally acquired new information which altered some of his conclusions. Shortly before his death in 1981, he completely revised two of his books (*The Mayflower* and *Colonial Vessels*) for publication as a definitive single volume on 17th century ship design: *The Mayflower and Other Colonial Vessels* is the result. Containing new information and illustrations, the book reconstructs a variety of small merchant-ship types used in the English colonies during the 1600s — shallops, pinnaces, barks, ketches and the *Mayflower* herself.

The bulk of the book concerns the *Mayflower* which is covered in considerable detail. There are 20 black and white photographs and nearly 50 line drawings. Plans are available for modellers from an American source and are shown in reduced format in an appendix. There is also an appendix covering rigging specification, plus notes and an exhaustive bibliography.

Nobody interested in this period or model building can afford to be without this book. Specification is 9¼in. × 6in., 192 pages, hard cover, price £9.50, and published by **Conway Maritime Press.**

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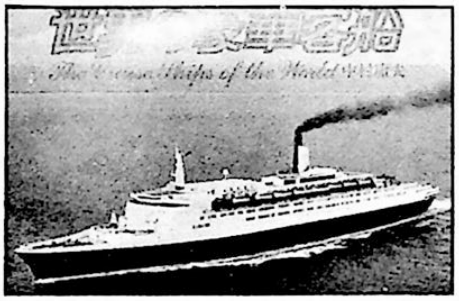

The Cruise Ships of the World by a Japanese publisher, distributed by **Albion Scott Ltd.,** is an impressive compilation of 110 full colour photographs of today's cruise ships. The large landscape format, 11in. by 9in., is utilised to the full and most plates are bled to fill all the area available. The quality of the photographs and the reproduction on quality paper is excellent. Apart from the considerable pleasure at just perusing the photographs, many of the illustrations will be of value to ship modellers — for example the directly overhead view of the *Norway*. The first 80 pages of this 96 page book constitute the colour work and the remainder is Japanese text describing the *Norway* (we think!), including a double page spread of all decks. The final six pages contain a brief specification of each ship reproduced (also in Japanese), but the majority of the information is understandable.

Notwithstanding the Japanese text, the book is well worth £14.95 for the excellent colour reproduction.

* * *

by Mike Critchley

Maritime Books of Duloe, Liskeard, Cornwall are well known amongst maritime afficianados for their annual publication *British Warship and Auxiliaries,* which lists ships of the RN, Royal Fleet Auxiliary and the Royal Maritime Auxiliary Service, plus aircraft of the Fleet Air Arm. In its 5 years of publication, the book has become well respected and popular and is complemented with an introduction by the First Sea Lord — Admiral Sir John Fieldhouse. Compiled by Mike Critchley, writer and broadcaster on Naval affairs, the book's 112 pages includes over 100 photographs and a brief specification and notes on each class of ships. This soft cover 6in. by 8⅜in. book retails at £2.50; excellent value.

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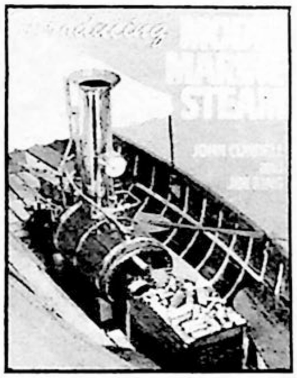
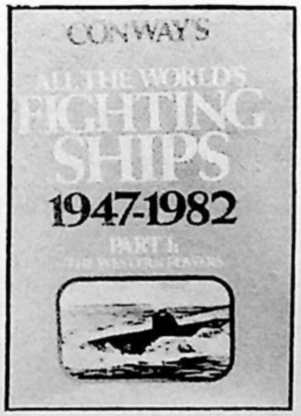


Another book in the 'Introducing' series from **Argus Books** is *Introducing Model Marine Steam* by John Cundell and the late Jim King. The series on marine steam which ran in *Model Boats* over 2 years regenerated interest in the oldest and longest serving form of mechanical motive power, the steam plant. Based on that successful series, this book is a completely rewritten comprehensive survey of the steam scene today and covers in its 12 chapters types of engines, boilers, methods of firing, auxiliaries, installation maintenance and the application of radio control for successful model steamboat operation. The book's 112 pages are profusely illustrated with 48 photographs and 90 line drawings; specification is soft colour cover, 8¼in. by 5¾in. price: £4.95.

It is hoped that *Introducing Model Marine Steam* will provide information and practical advice for budding steam enthusiasts and go a little way towards perpetuating the undying enthusiasm of a great model boater, the late Jim King, who never saw the completed copy of this book.

* * *



Conway's All The World's Fighting Ships 1947-1982, Part 1: The Western Powers, is the third volume of an impressive series of books which when finally complete will provide probably the most detailed and comprehensive naval reference work ever published. The first two volumes covered 1860-1905 and 1922-1946. The 1906 to 1921 volume is due for publication next year.

Despite the generous format chosen, 12¼in. by 8¼in., 304 pages, it has been found necessary to split this post-war period into 2 volumes. The present volume lists every significant warship built for the Western powers since the end of wartime construction, including information on weapon systems, electronics and a background to the development of each navy.

Part 2, covering the Warsaw Pact, non-aligned countries and minor navies, will be published in October.

Within its 304 pages, the book includes 291 half tones and 251 line drawings. The list of contributors reads like a 'Who's Who?' in naval writers and this work can only enhance the renowned reputation gained by the previous volumes.

For those readers who already have the first two volumes, we do not need to make any further recommendation. To those new to these works we strongly advise you to make an inspection.

The price is a very realistic £25 and the work is published by **Conway Maritime Press.**

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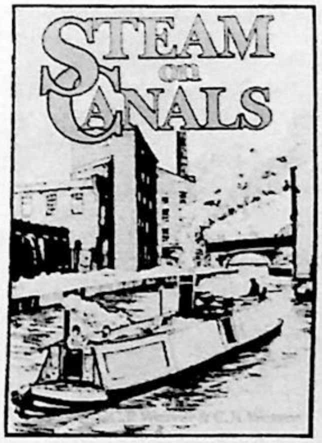


Steam on Canals by C. P. and C.R. Weaver, published by **David and Charles** at £6.95 (Hardbacked, 6¾in. by 10in.) is a fascinating book full of interest and nostalgia for the steam or canal boat modeller. Its 96 good quality paper pages include 118 excellently reproduced half-tones, many of which have not been published before.

The book is divided into 9 chapters, starting with a brief introduction and a look at the steam pioneers, going on to steam narrow boats, wide canal craft, river and ship canal craft, passenger craft, inspection launches, maintenance craft and preservation. Each chapter is headed by a few introductory pages followed by extensive captions relating to each half-tone.

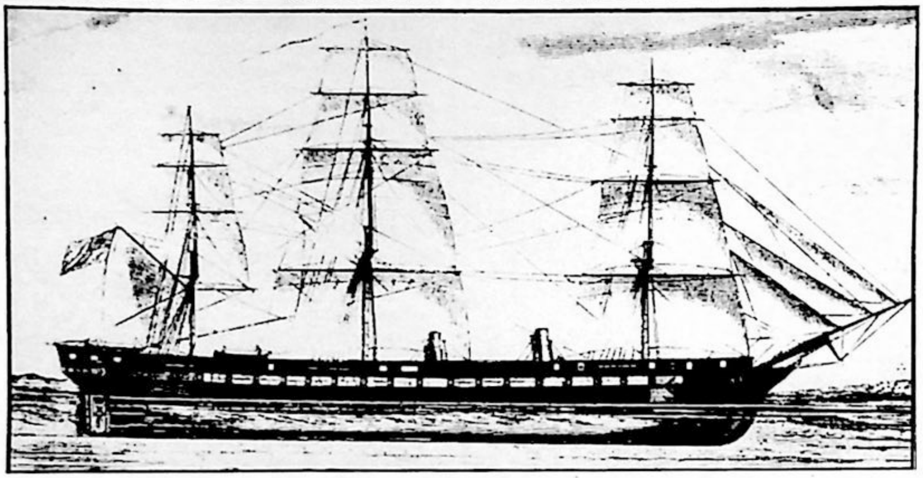
This aspect of our transport system throws up some unusual and interesting craft and this work provides a reference source to a somewhat neglected period of our industrial past.

* * *

Maritime Models of Greenwich regularly stock a large number of ready-made hulls in g.r.p. and a.b.s., some of which are produced solely for the company. An illustrated listing, amounting to some 38 pages is available from **MM** at 85 pence.

* * *

THE BLACK SNAKE OF THE CHANNEL



William Mowll's series in Model Boats which covered the building of his award winning model of S.S. Great Britain, received overwhelming praise. His new project is

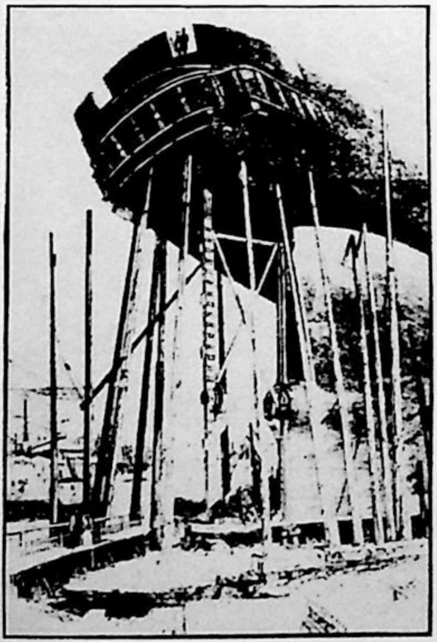
H.M.S. WARRIOR

The First and Last Iron Warship — 1860 Part One

THE RICH heritage of ships now under preservation in the United Kingdom has been a story of enormous good fortune, or perhaps some would say, a demonstration of the national reluctance to dispose of any item which has sentimental value or historical interest.

It is, nevertheless, remarkably lucky that no natural disasters have destroyed the two prime examples of Victorian iron-shipbuilding in this country, namely the *SS Great Britain,* Brunel's historic iron-built and screw-propelled Atlantic liner (1843), and the first and last iron warship *HMS Warrior* (1860), at the time of writing, under major restoration in the Coal Dock wharf, West Hartlepool, but eventually to be found a permanent berth at Portsmouth, from whence she was first commissioned in 1861

Warrior — *under construction. Courtesy Mary Evans Picture Library.*



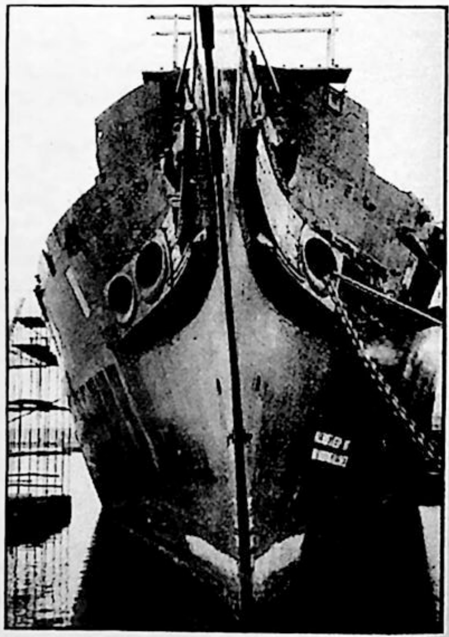
Both these ships were innovatory, being packed with totally new concepts and ideas, sparked by the two giants of marine engineering, working together on the production of the *P & SS Great Eastern* (1859), Isambard Kingdom Brunel and John Scott Russell. It is well documented that this relationship was agonisingly disharmonious, but the surviving results of their work are a lasting witness to the competence of both men.

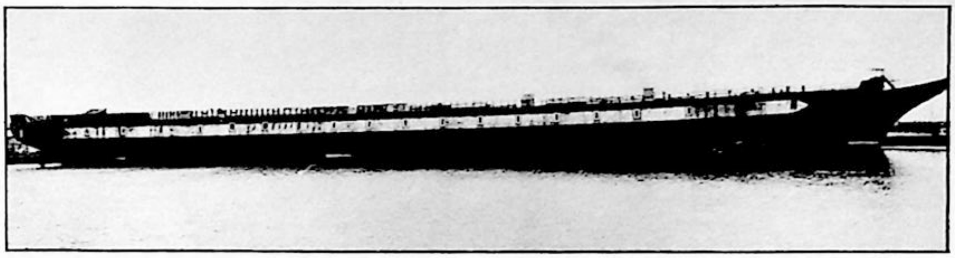
In the same year in which the *Great Eastern* was launched, the British Admiralty had been unnerved by the launch of the French ship *La Gloire,* a wooden ship built with a belt of iron armour over 4½in. thick and capable of a speed of 13½ knots with the aid of steam propulsion. A modest 261ft., displacing a massive 5,617 tons, and built from oak, *La Gloire* had been designed by the leading French naval architect of the day, Dupuy de Lome. His design for an armoured ship first appeared 12 years before, and he had developed a considerable expertise in steam powered vessels during this period, but the French ship building industry was not yet in a position to produce an all iron hull, which was the key to unlocking the new era. Even the British naval dockyards were not yet able to build ships totally from iron, and it was left to the Admiralty, somewhat cap in hand, to approach the new breed of merchant ship-builders, on the Thames at Blackwall for the *Warrior,* and at Govan on the Clyde for her sister ship, *The Black Prince.* These yards alone were able to build iron hulled ships of sufficient length and breadth to support the massive top weight of armour plating, without becoming unstable gun platforms.

With unusual speed, the British Admiralty ordered Isaac Watts and John Scott Russell to design a naval war machine which would re-establish the British Navy's supremacy and restore the nation's confidence in its ability to defend itself. Following the bunglings of the Crimean War, Parliament too was in an uneasy mood.

The need was very real and very urgent, for the French plan was to build three more iron-clads, any one of which could outrun and outgun the now obsolete wooden ships of the line. So convinced were the French of their supremacy, that all work on the building of conventional wooden ships had ceased in 1857, which accounts for the seriousness with which the Admiralty regarded the appearance down the slipway, of the first battleship, in the form of *La*

Eye-to-eye with the 'Black Snake', **H.M.S. Warrior,** *alongside the Coal Dock wharf, West Hartlepool, 1982.*





The first and last iron battleship H.M.S. Warrior, *1860.*

Gloire. Whereas the French were masters of bombardment techniques the English had more than a head start in the fabrication and mass production of reliable wrought iron plates.

During the 1850's, British armour plating had been developed by metallurgists to be much more free of carbon, which had formerly caused the plates to fracture, showering razor sharp splinters on impact under battle conditions. For any ship's company, the prospect of being in action aboard an ironbuilt ship prior to the 1860's would have been enormously demoralising, and for this reason The Admiralty held back for as long as possible from following the merchantmen in the production of iron hulls for fighting ships.

HMS *Warrior*

English history has shown that under conditions of threat and shortage of time, the best work manifests itself. The ship which Isaac Watts and John Scott Russell laid before Their Lordships looked like nothing else the world had ever seen, and was, in every sense of the word 'Invincible.'

The hull lines and low profile of the new warship represented a total revolution, 120ft. longer than any other warship afloat and destined to have a displacement of 9,137 tons — three times that of Brunel's *Great Britain*. The central battery of the ship was built like an armoured fortress with 4½in. armoured plating backed by 18in. of teak. Her armament consisted of 26 68lb muzzle loaders, ten 110lb breechloaders and four 70lb breech-loaders.

Her sleek all black 380ft. hull, with its single gun deck, was crammed with other surprises which will be unravelled later, but soon earned her the name of The Black Snake of The Channel.

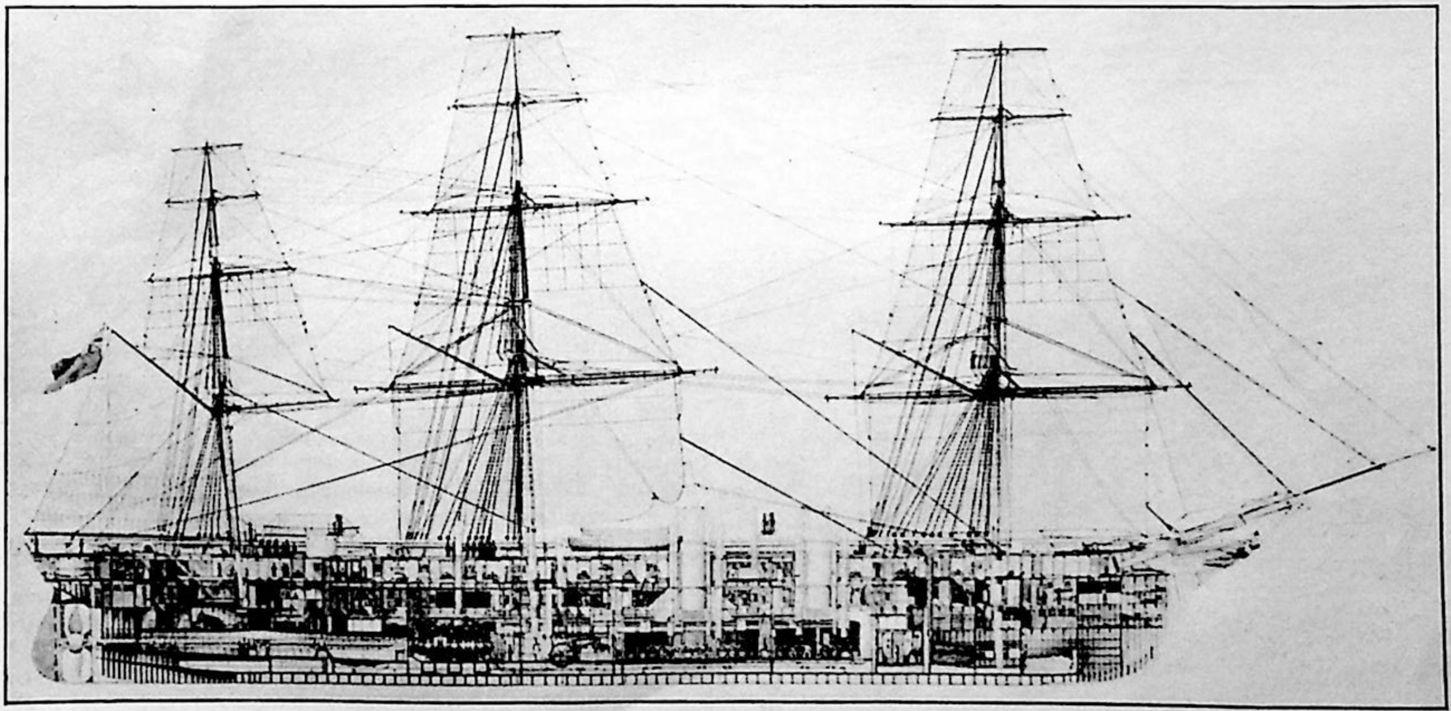
The Admiralty were delighted by what they saw; an impregnable, unsinkable mobile floating citadel which would re-establish Britain's sovereignty of the seas.

The personal challenge to build a fully working model of *The Warrior* comes from my enthusiasm for early Victorian hybrid ships in those few brief years when sail and steam stood side by side.

In July 1981, I completed and launched a large model of the SS *Great Britain* in live steam and sail, built on a scale of 1:48. It took over four years to build and was the subject of a long running series in *Model Boats* magazine and subsequently my first book, SS *Great Britain, The Model Ship*, (MAP). What should follow an undertaking such as that was largely answered for me by the first sight of a most remarkable illustration done by a former student at the Department of Technical Illustration of the Bournemouth and Poole College of Art and Design. His name is Stephen Ortega, and as you can see for yourself, his work and dedication is quite breathtaking. With the guiding hand and technical expertise of his teaching staff, namely Stanley Paine and Michael Leek, this man's work both fascinated and challenged me. It took only a nudge and the promise of close co-operation by the staff of the Technical Illustration School, to convince me that the challenge must be met, however difficult or lengthy the process would be.

Having made the decision to dedicate a further large portion of precious spare time — the project could take anything from five to ten years, more questions flooded into the forefront of my mind. What material ought it to be made from; how big should it be; what propulsion shall I use; what kind of presentation should I give it; where is the money coming from to build this monster; have I got the space to make it in; what shall I do with it when it's made? For seven months, I chewed over the problem, whilst simply enjoying the fact that I was building nothing and had no deadlines to keep in terms of producing text. Then something quite abruptly ended this watershed period. I met, entirely by accident, a man who is a dedicated expert in the manufacture of GRP

This extraordinary meeting came about by my being lost on an industrial estate to the south of Redditch New Town. Seeing an open door I stopped the car to ask my way



A half-tone reproduction of the full-colour, line and wash illustration of H.M.S. Warrior as she was when she first went to sea in 1861. The 10ft. × 5ft. illustration was completed for the Maritime Trust, London by Stephen Ortega during his studies at the Bournemouth and Poole College of Art and Design.

and in the same instant, knew that I had arrived. Here was a man actually making hulls in the size for which I was looking . . . and they were beautiful with a capital 'B.'

The next bit goes best into dialogue.

William Mowll "Excuse me, I'm lost, but I'm no longer looking for the person I couldn't find."

Keith Lines "How's that then?"

WM "I want to make a model boat."

KL "Hmm, we've had one or two kids round here with the same idea."

WM "Five minutes ago, it was going to have a brass keel and be a plank on frame job, but that's all changed, now I've seen what you're up to."

KL "Do you realise what's involved with producing one of those?"

WM "Well, yes and no — mine take four years — how long does it take you?"

KL "Don, put on the coffee — you don't mind me not stopping, only the bucket of resin will go off," (applies another coat liberally to some packing cases which are in for repair in a gruesome yellow colour). "I hop you don't think this is my usual standard of work — I don't normally paint in the dead leaves."

WM "It's fine by me," says I. "If I were to make a plug, would you be prepared to show me how to lay it up?"

KL "Yes, that's no problem — coffee? What's the model anyway?"

WM "HMS *Warrior*."

KL "What's that?"

WM "Victorian battleship — ironclad — 1860."

KL "Really — how big?"

WM "8ft. 4in. hull length."

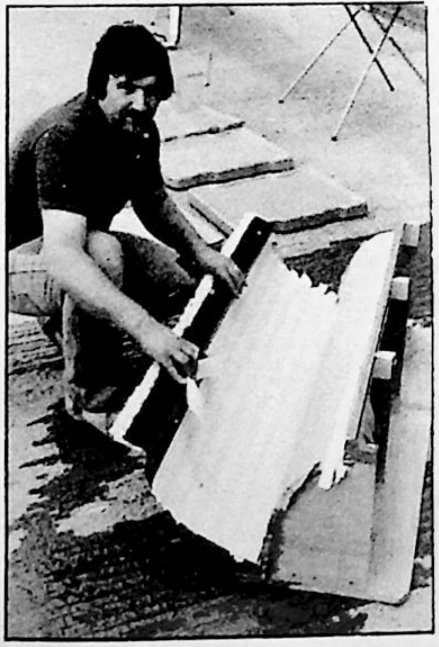
KL "Merciful heavens . . or the Redditch equivalent . . . it's nearly as big as one of my sculling boats."

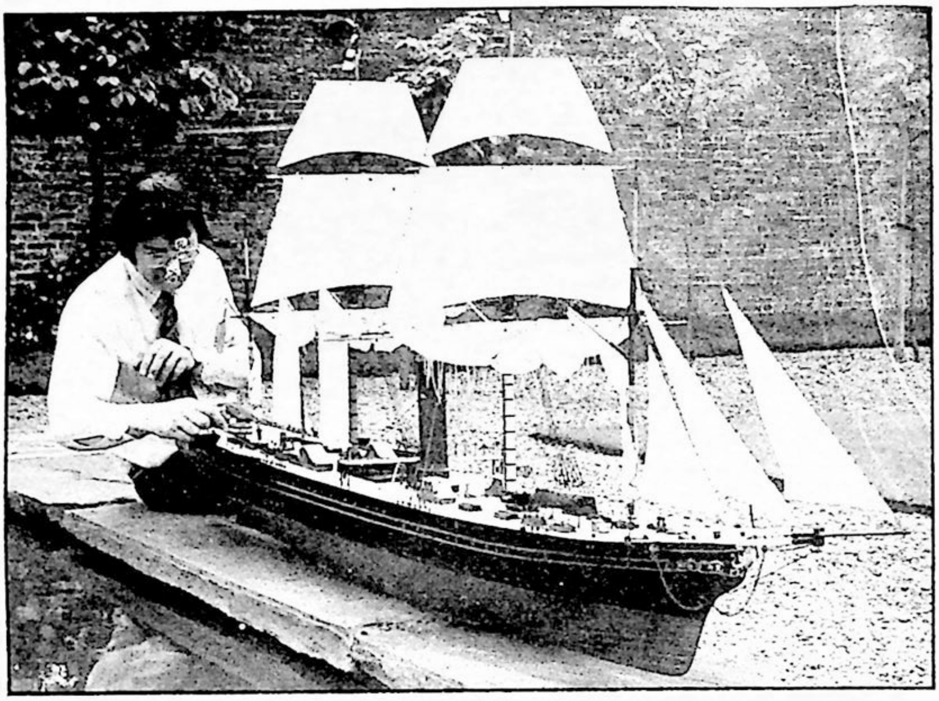
WM " . . . I think it's broader in the beam."

KL "My scull's 9in."

WM "Mine's 14¼in."

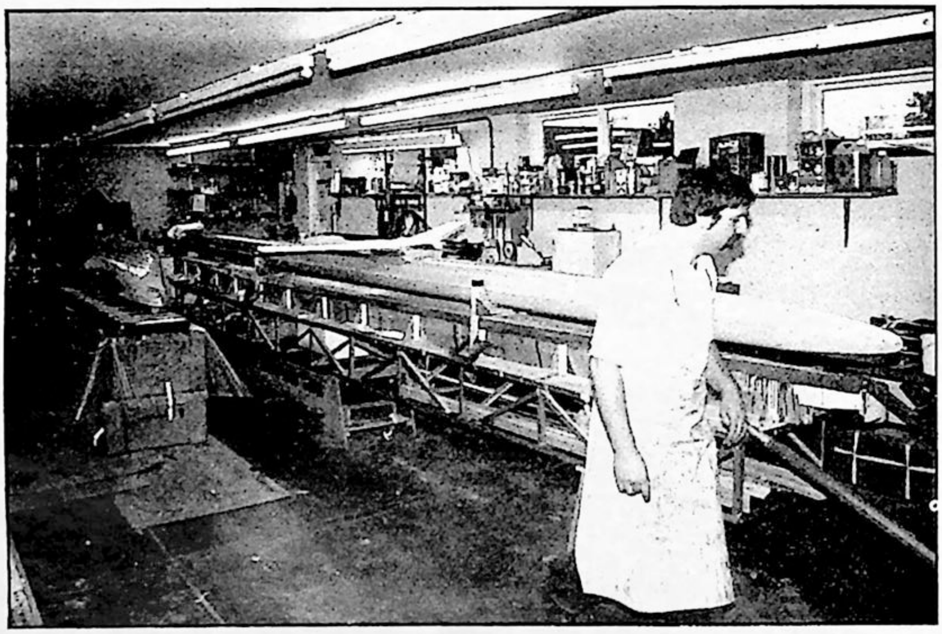
Initial experiment with laths, gummed brown paper strip and masking tape . . . it works in theory!





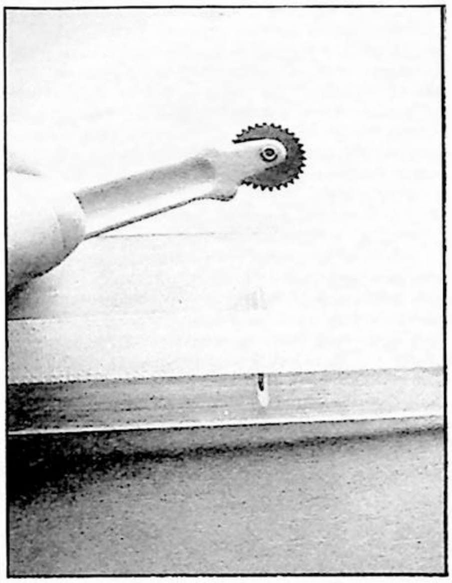
Above, the author pictured in July 1981 launching his fully-working model of the S.S. Great Britain, Brunel's mighty iron ship.

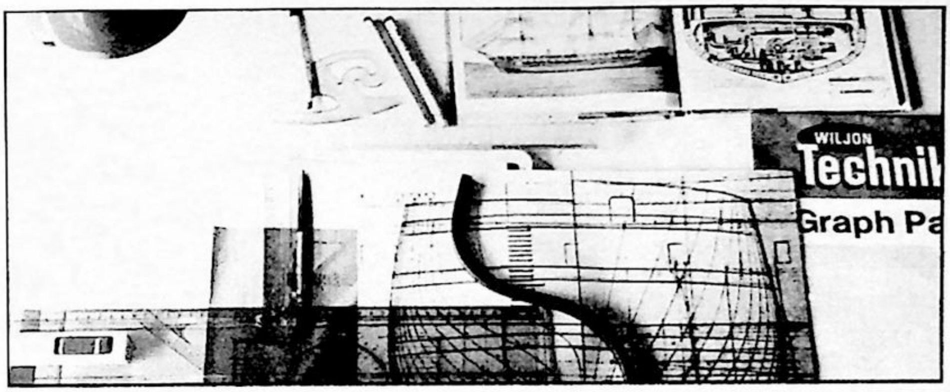
Below, Keith Lines, g.r.p. laminator of Sculling Boats in his workshop.



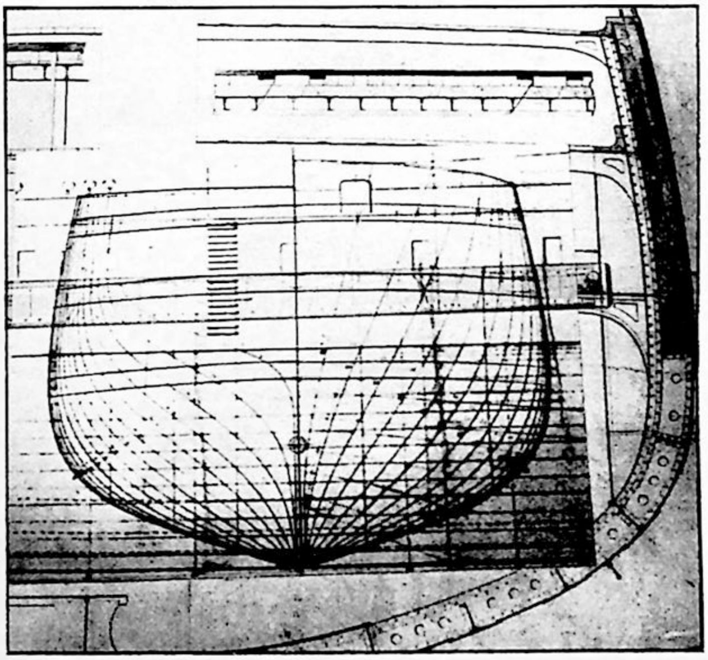
Some half an hour later, we had exchanged addresses and agreed to meet the following week in order to have a look at the plans. During that week we also discussed the possible use of draughtsman's tape for the outer surface of the hull, to give both the texture and the 'in and out' of the plating on the prototype. Whilst Keith offered to experiment with different sorts of tape, taking critical notes of the level of attack by the resin to the undersides of the varying tapes, I discovered that it was possible to transfer simulated rivet marks through draughtsman's tape with a dressmaker's wheel.

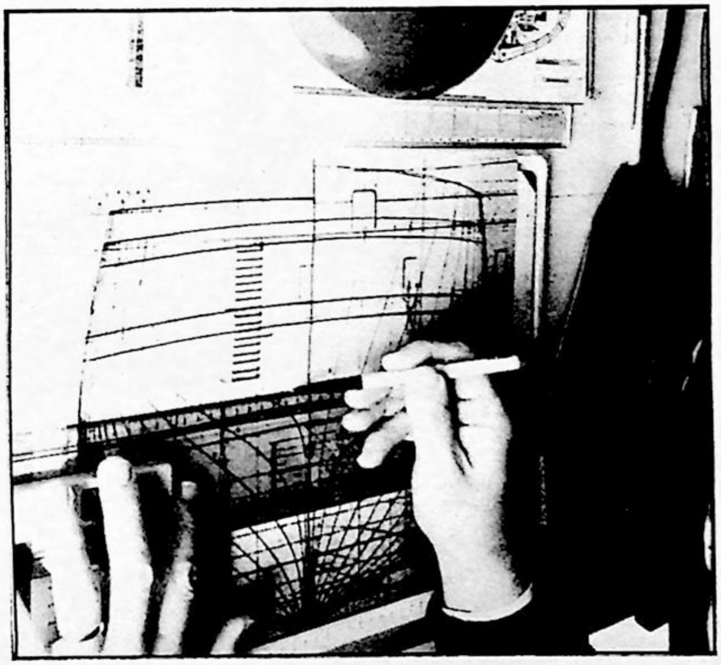
Further experiments, made this time with a complete mock up of laths over half a hull satisfied us both that the texture and the markings would transfer in excellent detail from the tape and in fact the release action from the plug to the mould was actually eased by use of the tapes. Just to be perfectly certain, Keith Lines also suggested that we could use gummed brown paper strip, which would be bound to dissolve if the mould were immersed in water.





Dressmakers' wheel using Perspex jig for impression of rivets in masking tape. Above right, the basic kit for turning 2 dimensions into 3. Good light, reliable references, a decent drawing-board, carbon paper, graph paper and Flexicurve. Below, body plan of Warrior scaled up to 1:48 set against 1:44 Admiralty plan of mid-section. Bottom right, using the drawing-board to transfer the body lines on to graph paper via carbon paper beneath the lines plan.





The introduction of the gummed paper strip was an excellent thought, to which I will refer a little bit later, in the building preparation of the plug.

With the assurance of Keith's assistance in the future, I felt ready to tackle the primary task of producing a hull shape.

Startpoint

To begin any building programme of any size means much preparatory work on the drawing board. I have at last acquired a drawing board with parallel slide motion, which is both an excellent aid and an indispensable delight. Used in conjunction with squared graph paper, there is a certainty of accuracy which lies at the very heart of disciplined work and removes the uncertainties of doubtful data, when it comes to the physical business of fitting pieces together.

The body plan of a ship is difficult to scale up, even with the right tackle, and hardly worth the effort when it can be so easily done by photography. A photograph of the plan with the camera placed directly overhead, can be scaled up or down for printing out to your dimensions by the photographic processor, and will suffer very little from lens distortion. A number of good processors advertise in the photographic magazines each month; obtain the services of someone specialising in black and white.

During my seven months' rumination, I decided, for very sensible reasons to do the stupid thing and build the *Warrior* to the same scale as the *Great Britain* ($\frac{1}{4}$in. to 1ft.), which will make it a Leviathan in modelling terms and more than a match for its predecessor.

Following the decision to produce the hull in glass-fibre another major opportunity is open to me — that of building from the mould a second hull which can depict the interior of the ship and all the detail of what life was like in the mid-Victorian navy below decks. This is a distinct bonus of using GRP and will enable me to use to the full the illustration by Stephen Ortega.

With the body plan scaled up in photographic form, the rather painstaking business of transferring the frame lines of the body plan onto the squared paper has to take place, using carbon paper, sandwiched between the photograph and the graph paper. The Rotring board provides, as an integral part of the mechanism, two full length side-clamps which is a very useful feature for holding the sandwich together. If you cannot run to a drawing board, then there is good news around the corner, for the totally indispensable 'flexicurve' is one tenth of the cost and assists you to draw smoothly round the contours with enough pressure on the ballpoint pen to give a good clear line on the graph paper template.

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~~Dave W~~ooley's World of Fast Electrics

LAST *Live Wire* covered the construction of the new *Sigma E*. This month's effort will focus on the trimming and racing of this the latest from the **Prestwich** stable, plus details on a hybrid motor made up from 6 **Keller** motors.

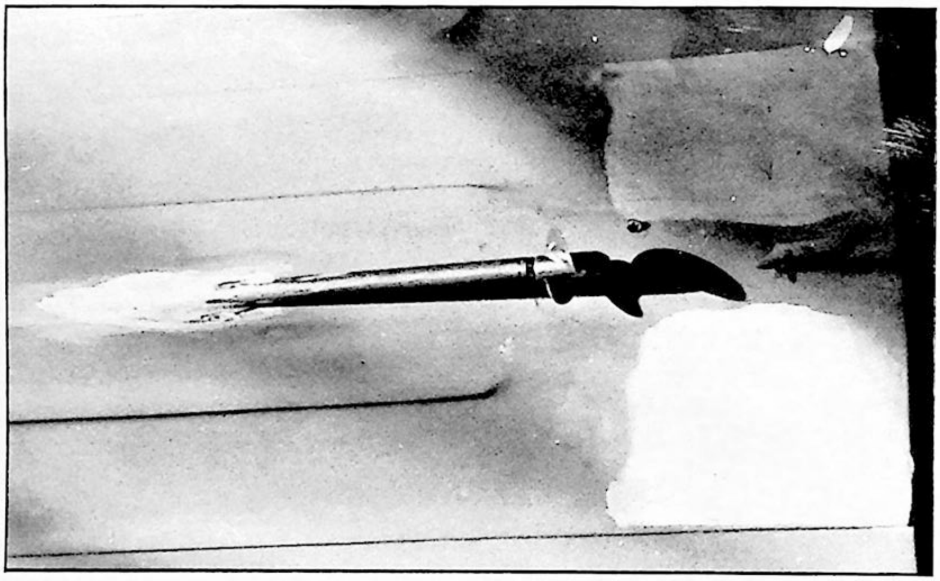
Trimming the Sigma

The *Sigma*, although being designed and moulded principally for i.c. racing, is one of the best +2kg designs available commercially. However, with the design being essentially for i.c. multi racing there are certain parts which have to be modified during the trimming out stage. The *Sigma E* is presently fitted out with the new **Keller** 100/7 and 30 **Ever Ready** AN 450 cells. This combination has produced very high performance with duration, a combination most sought after in all +2kg boats. The 100/7 is designed to operate on 30 1.2 cells at approximately 800 watts, whereas the AN 450 are capable of supplying up to 27 amps for 10 mins., a full 5 amps more than the 4D cells and, whilst maintaining a voltage level of 1.1; as against the 1v per cell for **Saft** and **Sanyo**, so there is a clear advantage in using the AN 450.

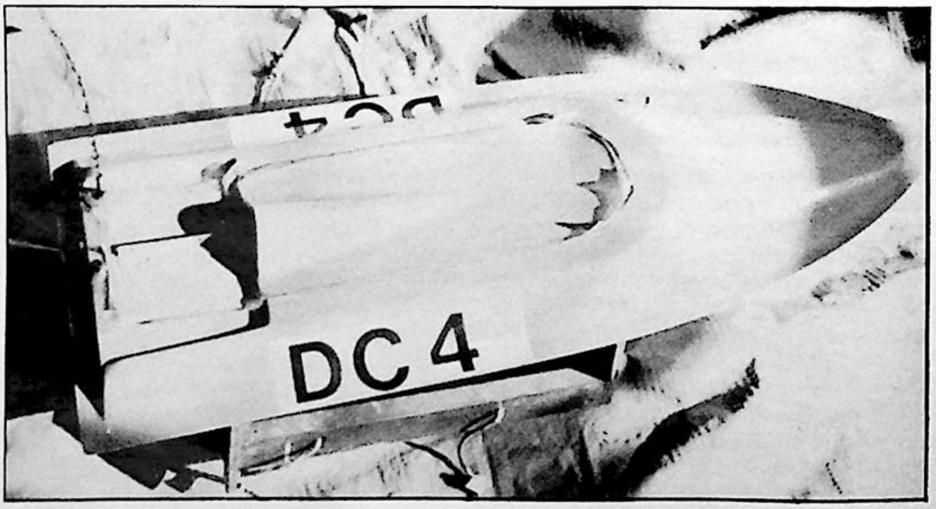
Akin to most i.c. hulls the *Sigma* has a torque wedge and moulded hook *(Fig. 1)*. These must be removed as their retention will keep the hull too much to the water. Essentially one must allow the hulls built-in lift to work, remembering that 30AN 450 cells weigh slightly more than a fully fuelled, geared 3.5cc *Sigma*. On the first trials the wedge was removed but the hook left in, the result being a very bow down attitude. *Fig. 1* shows how the removal of the hook is accomplished. The effect is immediate; the bow will rise and the hull will plane on the last 3in. of the transom.

The hull is 33in. × 12in. which makes it a big boat by +2kg standards. However, judging from its planing angle a large hull is more beneficial because the distribution of weight is more even; better by far than trying to obtain the same performance on a hull of smaller dimensions. A fast travelling small +2kg hull can easily suffer from directional problems, imposed in part by the water conditions, whereas a large hull can ride over anything but a heavy swell with high chop. Several large hulls do suffer from turning problems, not so the *Sigma*. Turns are precise and, even with proper selection of props, the load on the motor in the turns can be substantially reduced. At present I am using the **A.M.P.S.** range of props which are ideal for this type of motor, although it is indeed worth considering the larger **JG** range or even **Octura.** Anyway, for the moment we shall use **A.M.P.S.** In my initial tests I selected 6 sizes: 1818, 2015, 2018, 2020 and 2220. The 1818 as used on the **Keller** 80 made a good starting point. Unfortunately the results were far from satisfactory; although the size may have been very small the pitch was perhaps more correct than I originally thought. Running time was about 20 mins. so there was plenty of time in which to increase the sizes. Next I decided to try the 2220, way up the table, but I had to see what type of results would occur, again not very satisfactory. A reasonable speed only was produced and loaded drastically on turns. I did not actually assess running time. Next I tried the 2020 which improved performance, but the running period was drastically cut by at least 45% over the 1818; it was acceptable but I wasn't very impressed. By this time I believed I would never find a combination which would give me the speed I supposed the 100/7 was capable of giving. At that time the 2018 was not available to me so I resorted to the 2015 which I considered very small. To my surprise the performance improved considerably, with a time period of well over 12 mins. So with the prop size (blade area) remaining the same and the pitch reduced from 20 to 15 this allowed the motor to build up revs quickly and eased loading on the turns. At the time of writing I have not had a chance to test the 2018 but I am looking for just a little more speed, as there is room for manoeuvre where time is concerned.

Removal of the hook in bottom of Sigma *hull by careful use of a file.*



Internal combustion pedigree of the Sigma *is apparent from its tuned pipe/radio hatch deck configuration. This type of recessed hatch is not good for electrics because of sealing difficulties.*



Not all the testing was 'plain sailing'. I encountered several problems associated, I believe, with the coupling being alloy and a direct link to the motor. Initially a certain amount of radio interference caused some worrying moments. At first the radio was considered the culprit but after several more outings it became clear that some other factor was causing the problem. After some consultation with other enthusiasts it became possible to pinpoint the problem to the coupling being the cause, by virtue

Hybrid 50/20 11-turn armature

Prop	No. of cells	Volts	Amps	Input Watts	RPM	Efficiency %
8×6		5	1.7	8.75	2030	
		10	3	30	4350	
		15	5	75	6650	
		18	7	126	8210	
		20	7.5	150	8650	
	18	25	4.5	237.5	10120	
	20	29	11	319	10980	
9×4		15	6	90	6800	
		20	8	160	8530	
		25	10	250	9630	
10×6		15	8	120	6640	
		20	11	320	7520	
	18	25	14	350	8900	
	20	29	16.5	478.5	10300	
KE 50/24						
8×6		18	8.3	149	9610	62.5
		20	9.4	188	10320	63.5
		26	13.4	348	12890	70.7
		28	15.0	420	13780	73.8
		30	16.5	495	14280	70.3
10×6		16	11.4	243	8520	70.8
		20	15.7	314	9190	70.8
		26	23.5	611	10900	63.8

of it being metal and linked direct to the shaft. I fail to see why this should be so, as all my previous +2kg models have had couplings incorporating a solid metal to metal link.

Secondly, the deck arrangement still retains i.c. pedigree, with its characteristic tuned pipe fairing and radio hatch stepped three quarters of the way along the hull *(Fig. 2)*. This makes it very difficult to seal with any tape. These two observations have been passed on to **Prestwich Models**, for a new style deck for the *Sigma E*. This is now being set out and will be available with the hull by August. The arrangement will be similar to that of the *Nagari*, flat and flush with no bends or steps.

Incidentally, for those of you searching for suitable tape for sealing hatches then I recommend freezer tape. It is stronger than pvc and adheres better. Howeer it won't stick to a wet deck. Does any reader know where I can get a tape that sticks to a wet surface? If you do, let me know and every fast electric boater in the country will be clamouring for it.

Motor Test Report 50/20

This month I shall cover details of a motor which is not officially available but can be obtained quite easily. I am talking about a **Keller** 50/20, a hybrid motor that has been made up from two motors. I will explain. The case, including brushes, magnets, bearings — in fact the entire motor — is part of a 50/24 minus armature *(Fig. 3)*. The armature is made up from a KE Max 50/12, a ceramic motor which is inexpensive and the winding of which is ideal for the results that I required.

Actually I stumbled on to the motor combination more by accident than design. Whilst disabling a 50/24 I removed the armature for general cleaning. At the same time I had the KE Max 50/12 armature out of its case *(Fig. 4)*. I was quite curious to know what the results would be with a 50/12, 11-turn armature in a cobalt field, as opposed to a ceramic one, as the cobalt field would produce a higher torque effect than the ceramic. An idea of the performance can be gained from the bench tests I have compiled. Although low in rpm its current load is also very low in comparison to the equivalent volts with, say, a 50/24 or 50/14. Eventually the hybrid 50/20 was placed in a *Midi Nagari*, a hull I had never tried but considered a good test bed. On 18 cells with an X40 prop the boat's speed was not truly impressive but the time was in the order of 40 mins. At least this was a starting point. The decision was made to prop up to an X45. This produced a slight improvement in performance but nothing startling, in fact very close to the 50/14 set up. When I increased the voltage to 20 cells the performance was dramatic. At this stage I was becoming quite enthusiastic at my findings.

Referring back to my original test figures it appears a large prop (area not pitch) has the most significant effect without causing loading problems. Increasing the prop size yet again to an X47.5 gave quite a turn of speed at around 12 mins. duration, approximately 23 laps around the 60 × 30 course. The motor remained quite cool, proving the bench test figures on low current drain in comparison to say a 50/14.

The final stage was 22 4D cells on the X47. The results were really spectacular, the speed was very impressive and faster than last year's +2kg *Nagari KE* 80 powered boat. After 10 mins. I clocked up 26 laps which isn't bad for a 50 motor.

So there you have it; a genuine cheap set-up to challenge the new breed of big 100S which are coming onto the +2kg circuits.

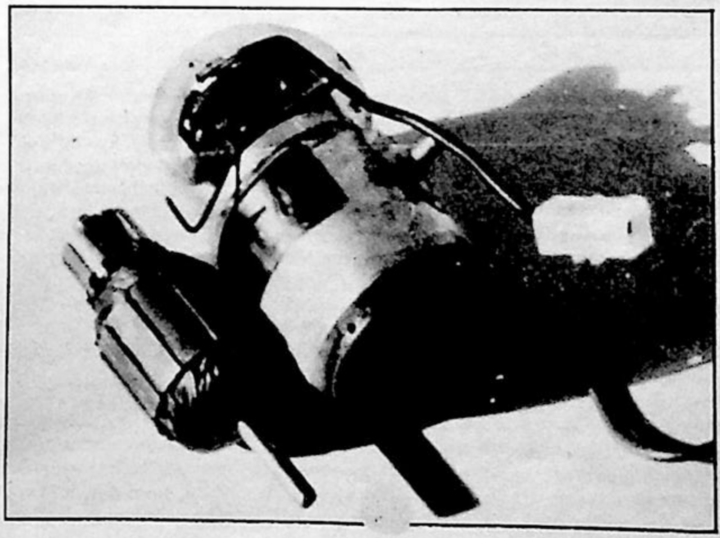
Ampeater Reports

The past two months have taken Ampeater to the Tykes, heartland of Bradford, Yorkshire and, a visit to the third round in the National FSRE championships at Etherow club near Stockport.

A long standing promise to the Leeds and Bradford club saw Ampeater at Larkfield Tarn giving a talk and demonstration on fast electrics, although the Leeds and Bradford club are better known for their yachting affiliation they have recently opened their doors to fast electrics and scale. They have a very fine water and good club house and most of all, an enthusiastic membership. The electric side number around 15-20 members, with the emphasis on restricted racing. Duting the talk, Dave Hollam, better known for his yachting successes, enquired about the need for more information regarding general restricted rules as there is confusion over what motors are permitted and what motors are not. Another point raised was in connection with weight. It was considered more appropriate to have a minimum weight of say, 1kg, than a maximum of 2.5kg which would avoid the specialist type of restricted which has tended to develop over recent years.

Ampeater leaned a great deal from the grass roots element of model boats. These are the very people the restricted class was aimed at; it was never intended as a third Naviga class as some would have it, but a class unfettered by cost and controversial running procedures. The Leeds and Bradford fast electric fraternity insisted that once they had developed their boats and perfected club organisation in fast electrics they would be willing to host events, which Ampeater will, indeed, look forward to.

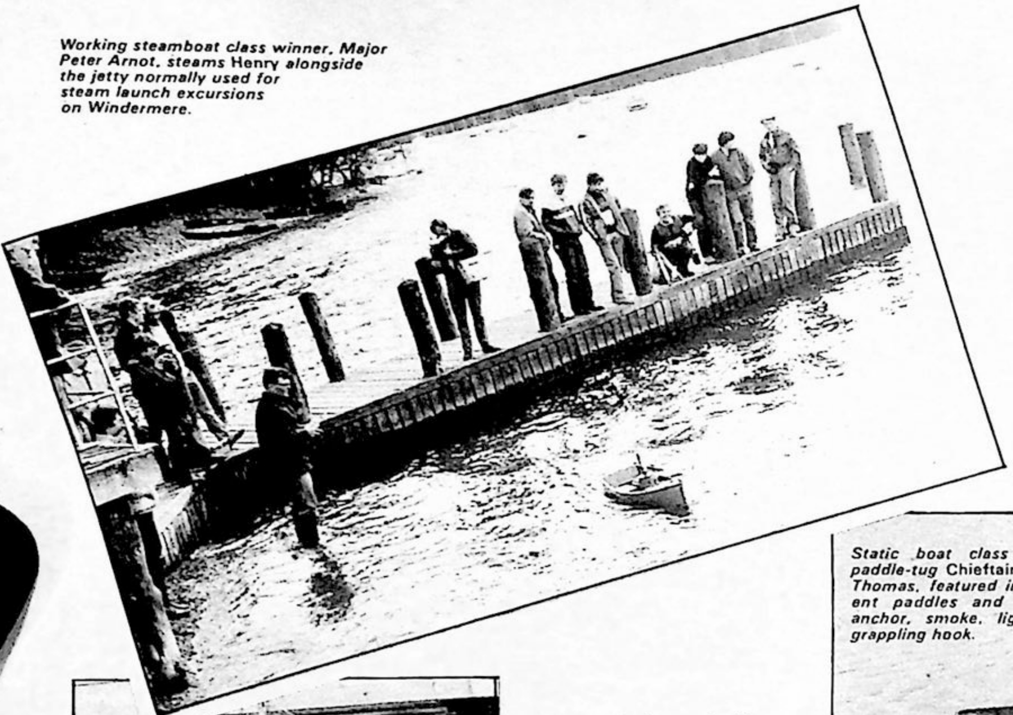
Moving to the north west, Ampeater visited Etherow club, definitely one of the keenest fast electric clubs in the north of England. They hosted the third leg of the national FSRE Champs with first rate organisation, which more than made up for any problems associated with the shape of the course (perhaps a little tight on the base line), but the racing was still as keenly contested. Having such a large expanse of water they were able to place the F3E steering and F1E speed courses on a separate lake which ensured an ininterrupted day's racing. One aspect brought to light by clubs such as Ether[illegible] and, a week later by Sheffield, is the ability to [illegible] organisers and helpers who are not competitors. This has become a very important feature because the running of an event, of necessity, requires non-competitors to control the racing. For those wishing to run an all electric event, here is a brief reminder from Ampeater as to the number of organisers required to make such an event a success. Control must consist of a minimum of two persons with several relief stand-ins. The weighing and voltage



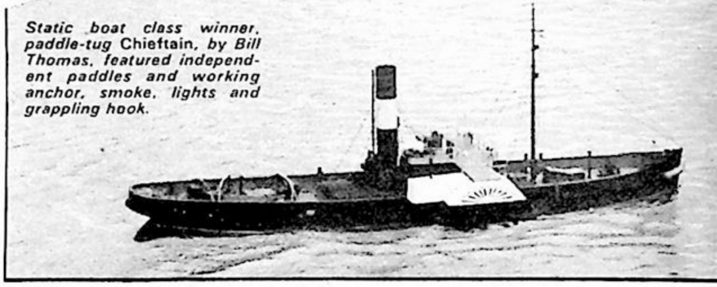
The Keller 50/24 case with Keller MAX 50/12 armature.

Windermere Ste

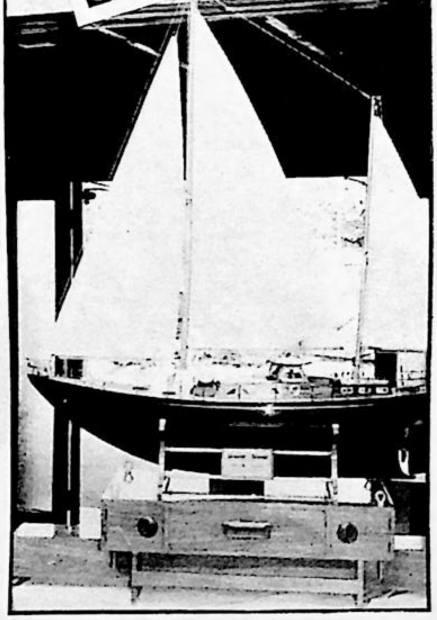
The regatta on 18/19th June was very well supported with over 80 entries in classes; static boat, working steamboat and sailing boat model. The organisers arranged



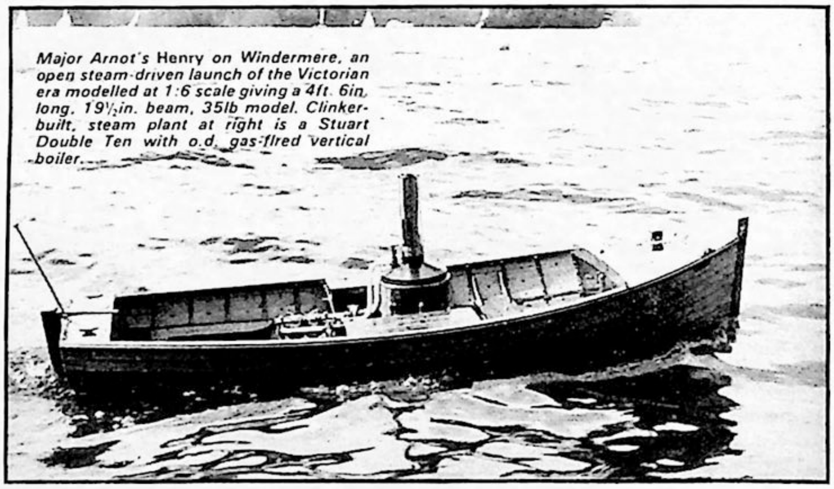
Working steamboat class winner, Major Peter Arnot, steams Henry *alongside the jetty normally used for steam launch excursions on Windermere.*



Static boat class winner, paddle-tug Chieftain, *by Bill Thomas, featured independent paddles and working anchor, smoke, lights and grappling hook.*



Left, best in show and sailing boat winner was Princess Amanda, *a 1:12 ocean-going motor yacht by John Saurin of Blackburn. G.r.p. hull, mahogany decks.*



Major Arnot's Henry *on Windermere, an open steam-driven launch of the Victorian era modelled at 1:6 scale giving a 4ft. 6in. long, 19½in. beam, 35lb model. Clinker-built, steam plant at right is a Stuart Double Ten with o.d. gas-fired vertical boiler.*

LIVEWIRE (from 415)

measurement aspect can be managed by one person but it is preferable to have assistants to ease the burden during busy periods. All transmitters should be impounded so as to avoid the possibility of interference. Again, one person can cope, but it is better if the task is spread among several. Finally, a pit marshal is required whose duty it is to ensure the smooth running of the pit area and that any problems can be dealt with immediately. The minimum requirement is, therefore, seven persons with relief for transmitter and weighing. Most clubs somehow manage to assemble a team of workers to run an event. Generally, these are drawn from other sections of the club not associated with fast electrics, in which case the club is indeed very fortunate.

At the end of May Ampeater visited the 6th International All Electric. Ampeater won't be giving any details as this event will be dealt with separately. Evident for the first time in six years was a small decline in numbers attending. This can probably be attributed to the recession where many events are suffering a general air of depression. However, the event went on and proved to be highly successful with some 65-70 boats attending; although no records were broken, some new attempts were being made and Ampeater feels certain that by next year records will once again be falling.

Problem Page

This month's problem page turns its spotlight a little to the east, in fact 8,000 miles, all the way to the Far East. Recently I received an interesting letter from one of Live Wire's readers, namely a Mr. R. Tanumihardja of Singapore. He goes on to say: "Could you please advise me on the following? (1) How do you manage to protect your radio, motors and other components from water? (2) What are the differences in the hull performance requirements of i.c. and electric hulls?"

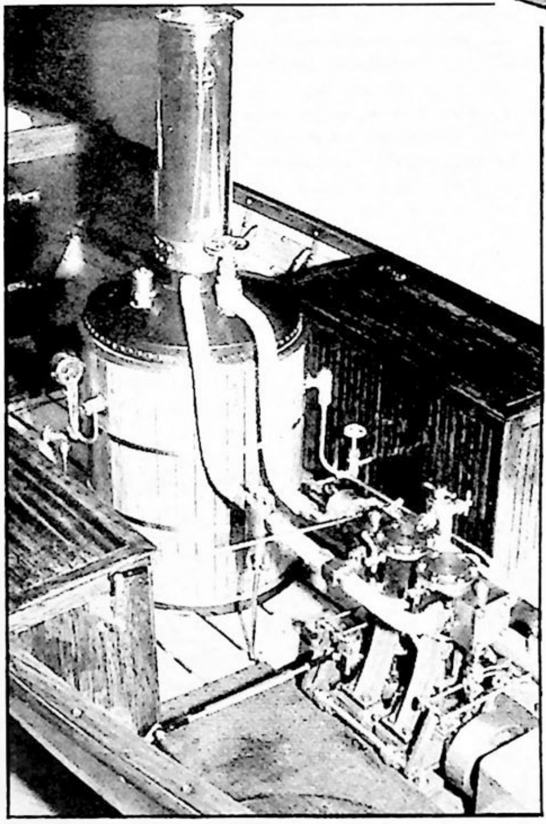
Well Mr. Tanumihardja, protecting equipment from water penetration is a continuous problem with model boats. There are very few hulls that remain absolutely dry after a day's racing. Apart from constantly oiling (heavy oil) the shaft and rudder post, check for any potential leaks in the watercooling tubes and water jacket, make certain the radio is made splash-resistant by covering with a small polythene bag, use waterproof servos, check for open gaps between hull and deck and finally, when taping up use a good quality tape whilst ensuring firm adhesion to the fibre-glass.

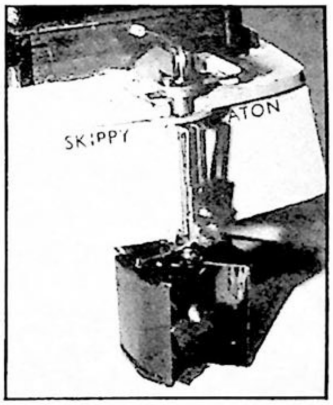
amboat Museum

Regatta

display areas within the Museum and competitors could sail their models on a small pool outside the Museum or on lake Windermere.

Steam-launch Osprey returning to the Museum following a lake excursion. Regular trips take place during the summer.





An intriguing flash-steam radio controlled steamboat absolutely packed with equipment within its 15ins. featured this novel kitchen rudder unit (left), which was operated by a flexible cable simply pulling the cups together against the tension of a spring.

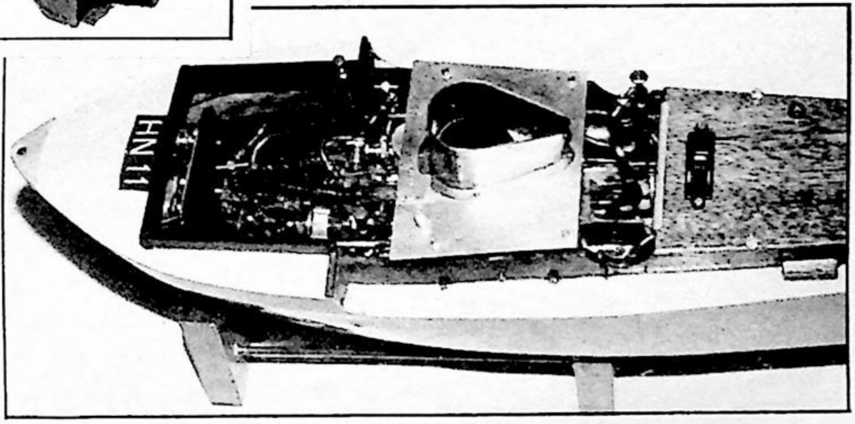
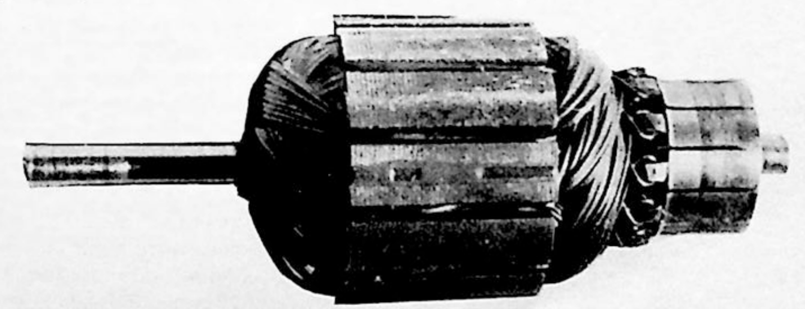


Figure 4 shows the 50/12 armature, effectively making the motor a 50/20. It is capable of swinging an X47.5 propeller, large by electric standards.



Electric and i.c. boats are quite separate breeds. Drawing upon their similarities is like trying to compare a steeple chaser with a horse bred for flat racing. I.c. hulls have to withstand a great deal more punishment than electric hulls and are therefore made much stronger, so are invariably heavier. With the exception of +2kg class the i.c. hulls are three times larger than electric hulls and are very much faster. Hull design differs considerably, again with the exception of +2kg. Electric hulls have developed along their own paths and are predominantly purist fast electric. Trimming out and prop selection as described in this article are quite different from i.c. boats. Water conditions have a great deal to play in hull selection; most electrics tend to operate on quite calm lakes whereas i.c. boats predominantly use moderately choppy waters. Whether by design or accident, this is the case.

Vic Smeed's

STARTING IN SAILING

In Part Three Vic Smeed discusses volumes and displacement

IT IS self-evident that the bigger the sail area of a yacht, the more force or drive will be developed. If two identical hulls are sailed, one with twice the sail area of the other, the yacht with the bigger sails will be much faster, up to the point where the hull is overpowered by having too much sail area for the wind conditions. Note 'overpowered' and reflect on it for a moment; it has two connotations, both of which apply in this context.

A hull's power to carry sail (usually abbreviated simply to 'power') is affected by its beam, its section (i.e. shape) and, most importantly in the average model, the proportion of its weight carried as ballast and the position of that ballast. Thinking back to what was said last time, it will be realised that the wider the hull (i.e. the greater the beam) the more likelihood there is of difficulty in balancing the in and out wedges; similarly, overall balance limits the shape of the hull sections, so that while beam and section do make a noticeable contribution to power, it is small compared with the effect of the lead and these factors are usually better used more subtly in influencing the sailing angle of the yacht at relatively small angles of heel.

The effect of the lead can most easily be thought of as a pendulum, although of course it is the whole centre of gravity and its depth below the centre of buoyancy which is the more accurate concept. For simplicity, however, we will think of the bulb itself, which normally represents something like two thirds of the weight of the entire yacht, and consider as usual the effect of the sails close-hauled for beating.

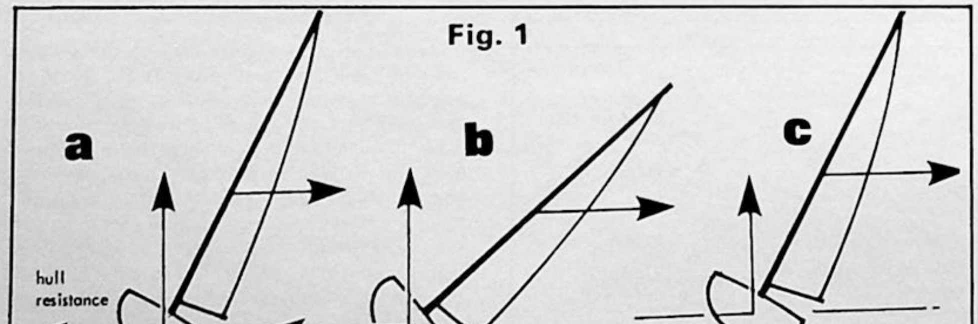
We know that the wind effect on the sail produces a side force and, because of the height of the sail centre of effort above the hull, that this side force heels the yacht over away from the wind direction, influenced by the lateral resistance of the hull in the water opposing rapid sideways motion. Without some force opposing the heel, the yacht would simply blow over until the sails were flat on the water and the heeling force thus ceased.

At a small angle of heel, the lead ballast fixed to the fin will move sideways a small amount *(Fig. 1a)* producing a righting angle opposing the heeling force. At a large angle of heel *(Fig. 1b)* the sideways movement of the bulb is much greater and the righting couple therefore much stronger. At the same time the heeling force diminishes because the sail C.E. becomes lower and the projected area of the sail (the area that the wind 'sees') decreases the further the boat heels. It follows that at some point the increasing righting force and the decreasing heeling force will come into balance and, given ideal conditions of a steady wind and flat water surface, the yacht would stay at the angle of heel at which the opposing forces balance.

The correcting couple can be increased by extending the fin so that the lead bulb is carried lower *(Fig. 1c)* or as an alternative, the same correcting couple can be maintained by using less weight of lead carried lower, thus reducing the overall weight (displacement) of the yacht, but there are limitations on how far it is wise to do this.

Last month, in discussing volumetric balance, it was mentioned that an unbalanced hull would be likely to have its stern or (less likely) its bow rise in the water on heeling, because the amount put into the water on the heel exceeded the amount taken out, at one end or the other. One of the major effects of this is to change the underwater profile *(Fig. 2)* and hence move the centre of lateral resistance of the hull. Since the sail CE has been balanced against the CLR to make the yacht sail straight, the effect of CLR movement is to destroy the sail/hull balance and introduce tendencies to steer away from a straight course. Because of the typical shape of a hull in section (desirable for many other reasons) reasonable balance of the in and out wedges can only be mantained up to a modest degree of heel, typically about 20 deg. Beyond this point the balance of the hull begins to deteriorate and steering starts to become erratic; about 30 deg. is a tolerable limit for an otherwise well-balanced design.

Fig. 1



At the other end of the scale, a yacht which floats stiffly upright will not sail well, if at all. In order to set in motion the various forces and balances which allow the yacht to slip easily along, it must heel gently to its sailing angle, which varies from design to design but is usually between 10 and 15 degrees in a breeze of, say, 6-8mph. A yacht with too much ballast, or a moderate amount carried too low, is likely to be too stiff and, although it may heel in a breeze, it will bob upright at the slightest lull and lose the drive from its sails.

Deepening the fin to carry the ballast lower may therefore have undesirable effects unless the ballast weight is reduced, and it should only be necessary if the whole yacht is overweight in the first place, when a pound or so saved on the lead will restore the hull to its designed load waterline. Deeper fins can usually be narrower, since only a moderate amount of side area is needed and unless tests have shown the yacht making excessive leeway, the area of a normally shallow fin can be redisposed into the deeper one. In fact, since a high aspect ratio fin is likely to be slightly more efficient, area might be saved. This means less wetted surface area and a potential if small reduction in drag.

It is not unknown for some model racing designs to have had the fin shortened and the ballast raised to decrease overall stiffness and allow the boats to settle more comfortably to the requisite sailing angle. In the racing classes, only the Marblehead and 10-rater have unrestricted fin depth internationally, incidentally, though one or two national classes (e.g. the American 36/600 and the French 10/40) are also free of restrictions in this area; the 10/40 does in fact have international recognition but is rarely seen outside France. One other point on fin depth is worth noting, by the way, and that is that the smaller the yacht, the greater the fin depth needs to be. An explanation of this offered some years ago was greeted with a certain amount of derision (though no more tenable theory!) but if proof is needed, acquire one of the little toy yachts widely sold, modify the fin to half the width and twice the depth, and compare the performance.

Inevitably, notes of this type are bound to repeat things said before, and apologies are tendered to long-time readers. However, there is still a lack of awareness among recent skippers in respect of changing down sails as the wind freshens — possibly they are frightened of placing themselves at a disadvantage by rigging a smaller suit in a race.

If we transfer the sketches *Fig. 1a* and *b* to *Fig. 3* we can illustrate the projected area of sail at the two angles of heel (picked at random but around 25 and 45 degrees or so). The wind 'sees' the shaded area in each example but in *a* the yacht is within the limits at which hull balance is still reasonable. The stronger wind in *b* has caused the yacht to heel to a point where the volumetric balance has passed the acceptable limit and not only is the boat going to be crankier in steering but the effectiveness of the rudder will be much reduced. Past 45 deg. the rudder is going to lift or depress the stern when applied and will have much less power to influence the direction of the yacht.

If the sail rigged on the model were to be reduced to one nearly as small as the projected area shown in *b*, the wind is going to 'see' just as much, i.e., the drive is going to be no less, but the yacht will be able to sail at a lesser degree of heel, where hull balance remains adequate and all the steering problems would be likely to disappear. In other words, the yacht will sail at the same speed (possibly a shade faster) but under control. This applies to vane or radio boats, by the way.

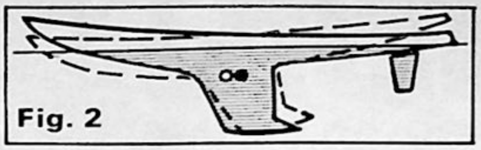


Fig. 2

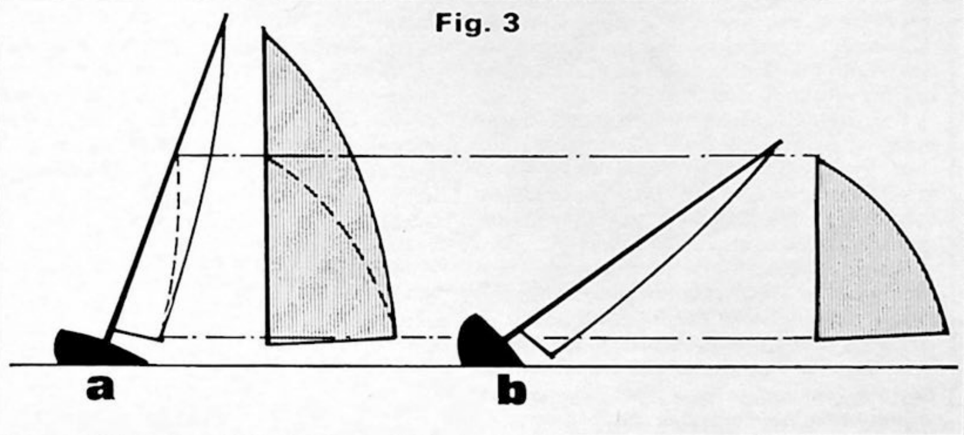


Fig. 3

There is, of course, a grey area where the wind is gusty and may be too strong for, say, second suit in the gusts but raises doubts as to whether it is advisable to change to third suit because the lulls allow the yacht to plug on in second suit. Only experience with a particular boat can allow one to read these conditions accurately, and whatever is decided luck can play a part should the wind steady at the lower or higher strength. On balance, though, the smaller suit may just have the edge, because the yacht will keep sailing without hard and frequent rudder application, while overpowering of the larger suit may mean a struggle to get the yacht resettled after every period of hard blowing. If not racing the skipper is not going to be too concerned, anyway, but a smaller suit will reduce wear and tear while still giving pleasant sailing.

(To be continued)

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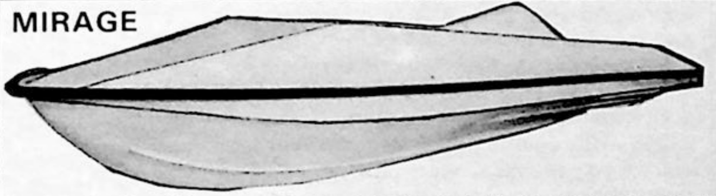

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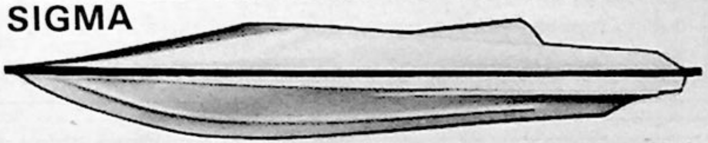

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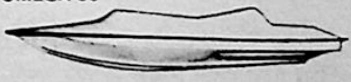

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IJN TOSA

By M.W.Williams

1922

By the early twenties Japan was well advanced along the road to expand her fleet with her 8-8 programme, conceived during World War One.

This ambitious programme called for the building of no less than eight battleships and eight battlecruisers, to greatly strengthen her already considerable fleet, then the greatest in Asia, to finally create one the equal to any in the world.

Needless to say these early indications of militarism by Japan had not gone unnoticed by the then premier Pacific naval power of America, and she was unlikely to relinquish this position without a struggle. The obvious response was for America to instigate her own massive capital ship construction programme, which would total ten battleships and six battlecruisers.

Given Britain's complete involvement in her total war in Europe at this time, she had to wait until its end before she could reply to these foreign programmes. As an island nation with a world-wide empire dependent on sea trade and communication for its very existence, she could not tolerate the idea of any other power equipping itself with ships superior to anything she possessed, so belatedly she joined in this new naval arms race with four battleships and four battlecruisers of her own.

So now Japan, America and Britain had all embarked upon large naval building programmes to counter the others. But to a world just emerging from its most horrific war, 'a war to end all wars', it was realised that these financially crippling programmes also carried with them a very real threat to future world peace, as each nation sacrificed its national wealth and committed its industry to continually producing replies to each others latest capital ships, in a seemingly endless escalating race, with total war as its only possible result.

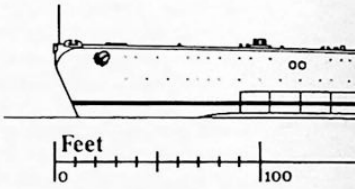
But sanity prevailed. President Harding of America gave voice to the many doubts being expressed at this time by the politicians of the countries involved in such a dangerous race. He called for a naval limitation conference to be convened in Washington, an idea that was readily accepted by the governments involved.

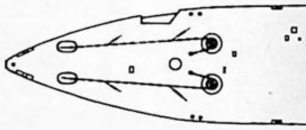
With a stroke of the pen, these massive new programmes of Japan, America and Britain were cancelled. Only some units very recently completed could be retained, at the cost of scrapping many older units, to finally level out the strengths of the world's fleets to an internationally accepted ratio. The race had ended.

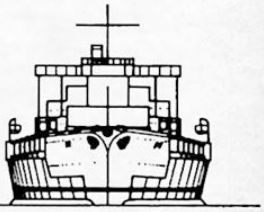
Besides the recently completed 16-inch gunned battleships *IJN Nagato* and *Mutsu, USS Maryland, Colorado* and *West Virginia,* retained respectively by Japan and America, there were other ships building (on the slips or fitting out at this time), that would now never be completed. This lost generation of capital ships, now littering the yards and harbours of Japan and America were to be destined for conversion to large aircraft carriers, of which both were allowed to convert two, or the more usual end of scrapping. But for one Japanese hull there was to be a rather unusual fate.

IJN Tosa could be regarded as a representative of the very latest ideas in design and construction techniques existing in modern Japanese capital ships, and as such it was decided that it would be of the greatest help to her naval architects and builders, to find out how well the protection and internal arrangements of their ships, often discussed and theorised about, would stand up to actual hits and damage. The incomplete *Tosa* was therefore assigned to these experiments as a test ship.

Laid down at the Mitsubishi yard in Hiroshima on the 16th of February 1920 she was intended to be a five turreted version of the *Nagato*. Along with her only sister ship the *Kaga* (later to be converted to a carrier) she was to have been a mighty battleship of 38,500 tons, 768 feet long, armed with ten 16-inch main guns, with a maximum speed of 30.5 knots. She was launched on the 18th of December 1921, just as the Washington conference was coming to its momentous agreement, the results of which soon stopped all work on the *Tosa* on the 5th of February 1922. Photographic coverage of her at this time shows her lying high in the water, lacking her eleven-inch armour belt, her barbettes and casements empty and blanked off, the unplanked decks dominated by the lower levels of the compact superstructure which carried a temporary bridge and wings upon the conning tower and with a short funnel for







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the ship's heating plant behind it. A rather bare picture of this incomplete battleship, but one suitable for a ship destined for a brief career as an explosive test ship.

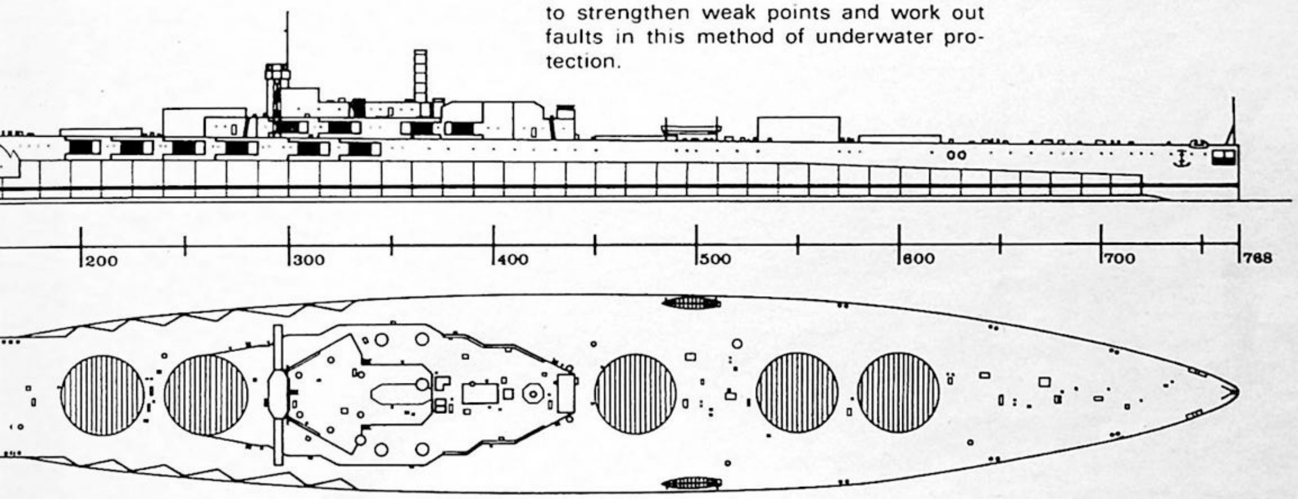
The first experiment was supposed to illustrate the effects of a possible detonation of the lightly protected forward port side above water torpedo room, an arrangement of equipment that had long been questioned. The test amply confirmed these doubts when the planned detonation of several torpedo warheads ripped asunder the light structure in this forward area, damage that would have been very serious if it had occurred under action conditions.

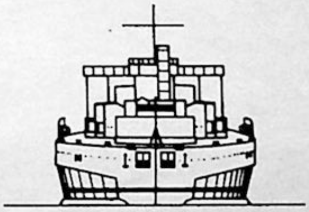
During the Summer of 1923 six simulated mine and torpedo detonations, ranging between 220 and 816lbs. of TNT were to be inflicted upon the hull to test her resistance to underwater damage. The results of these tests clearly illustrated that the existing all void side protection system featured in Japanese capital ships at this time did not perform as well as expected.

The standard practice in American and British designs was for a combined use of liquid (fuel oil or reserve feed water) compartments and watertight voids in a sandwich arrangement; a generally accepted better method of absorbing the force of an underwater explosion. It is interesting to note however that the Japanese decided to retain this all void system for her ultimate battleships of the Yamato class, though in a much more heavily armoured and deeper arrangement, due to their wider hull form and the results of employing the *Tosa* data which was used to strengthen weak points and work out faults in this method of underwater protection.

One final controlled test of this system remained, this involved the firing of a 16-inch shell with a planned trajectory to strike the hull amidships below the intended armour belt, were it easily penetrated the bulge and torpedo bulkhead to explode in an empty magazine. Another area for future improvement had been found.

After these large controlled experiments the *Tosa* was relegated to service at the Hiroshima gunnery school, where almost certainly further tests and damage was inflicted upon her already battered hull. But eventually it was realised that she could accept no more. The *Tosa* was finally allowed to sink beneath the waters of the Bungo Straits on the 9th of February 1925 and an interesting period in the evolution of the modern capital ship had come to an end.





IJN TOSA, THE CANCELLED BATTLESHIP OF 1922.

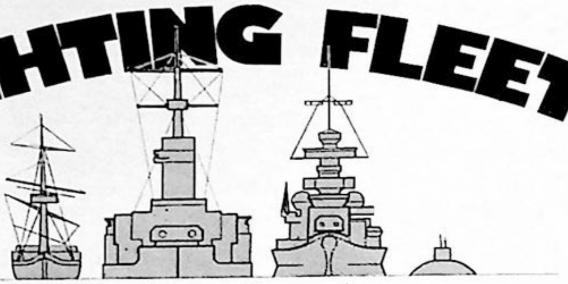
By M.W. Williams.

WHAT THE HECK'S THAT, MALCOLM?
IT'S A SCALE WORKING MODEL OF A BRAZILIAN FISHING JANGADA!!!
SPLASH!
IT'S RUN AGROUND!!!
I'LL GET IT!!!
MIND MY FISH!!! THEY'RE VALUABLE!!!
WHAT KIND ARE THEY?
PIRANHAS!!!
AAAAAAGH!!!!
SNAP!!
SNAP!!

By Popular
Request

A 42in. Thames
Steam
Launch

FIGHTING FLEETS in miniature



Twin
Cylinder
Oscillating
Steam Engine

For
2 Function
Radio Control

Designed by Basil Harley

Part Two Engine Construction

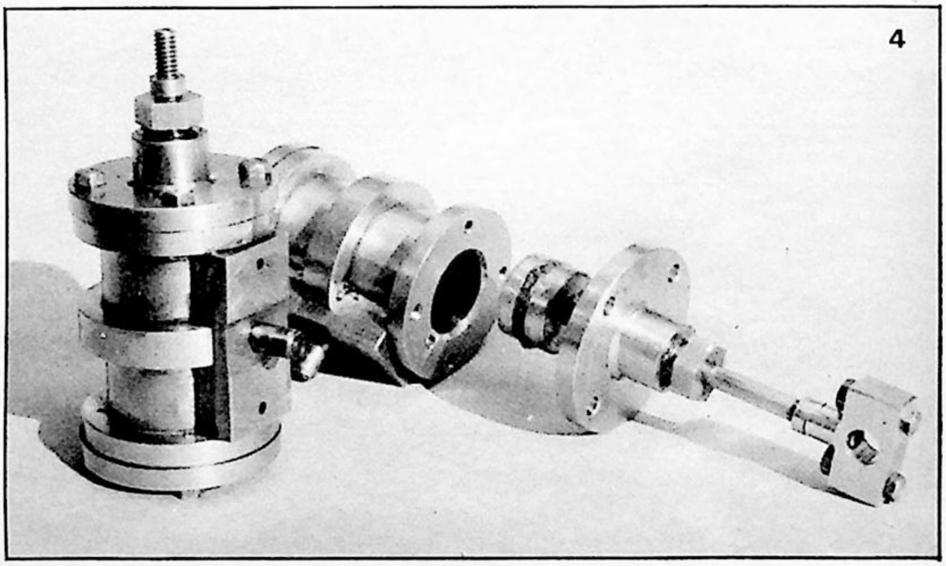
Pistons and rods

Since we are doing the cylinders we might as well continue in the same department and make the pistons and piston rods, Drawing E7. Leave the pistons a few thou oversize and screw them tightly to the piston rods. Then, with the rods held in the SCC, take *very* light final skims off the pistons with a finely ground, sharp tool until they *just* enter the cylinder bores, perhaps a little too tightly. They will then be steam tight but need to be 'run in.' This can be done by hand or on the lathe using a spot of 'Brasso' as a medium — I almost said lubricant! Having got a smooth and well-fitting result wash most carefully with petrol to get all the abrasive out otherwise your engine will soon wear itself out.

Crankshaft

The big ends and the bearing blocks (Drawing E8) are sawing, filing and drilling jobs but they all have the common factor of being split on the centre line for the $^3/_{16}$in. dia. shaft and crankpins. Do the 'split' before drilling by soft soldering the two parts together. Then all filing, marking out, drilling and tapping can be done with solid blocks until finished when each can be melted apart, cleaned up and then bolted together again round the shaft or pin. You will see that the big ends are tapped to receive the piston rods. This gives a degree of adjustment to make sure that the pistons are clear at the ends of their strokes. After fitting, the locknuts are tightened up to prevent any movement. In my case I made the locknuts tighten round and tightened them with pliers after putting a drop of Loctite on to make sure nothing shifted. Photo 4 shows the cylinder assembly.

With the small forces involved the centre bearing for the crankshaft is not really necessary but it is bad engineering practice to omit it. When the three bearing blocks are screwed to the bedplate fit the bearing caps and run a $^3/_{16}$in. reamer through to make sure all are properly lined up for the crankshaft to turn easily.



4

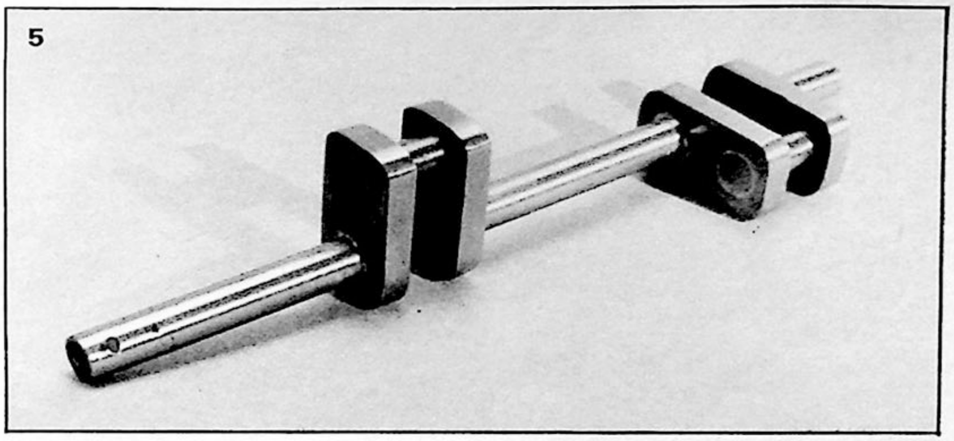
The crankshaft drawing E9 is self-explanatory. Cranks are set at 90° so that the double acting engine will be self-starting since if set at 180° it would be possible to stall on dead centres. Cut the four crank webs out and soft solder them together in a block. MOD for the shaft and crank pins so that all are identical. Then warm it up and melt the four webs apart. Clean up carefully to remove all traces of the soft solder since they are to be silver soldered to the shaft and if soft solder remains this will be made impossible. Position the webs onto the main shaft, put the crank pins in, warm it up to a nice red heat and, having pre-fluxed each joint, a touch of Easyflo No. 2 should soon run round making a solid job. It will be convenient to set it all up on a flat piece of asbestos — a cooking mat for example — and a medium sized GAZ torch should provide enough heat. By the way, *never* use a piece of asbestos cement for such a job. This will fly in the heat most dangerously and pieces will come off with explosive force.

When all is cool and solid cut the pieces of shaft between the crank webs with a hacksaw and file up neatly. Polish everything with strips of emery paper and it will then look like Photo 5. Perhaps this is a good place to mention the most helpful (free) publication by Johnson Matthey Metals Ltd. of 100 High Street, Southgate, London, N14 6ET called "The Six Easy Ways to Produce Brazed Joints." This is invaluable for the beginner in silver soldering (or brazing) and gives most useful information for such small jobs as the crankshaft as well as for the boiler which I shall be describing later.

The flywheel really needs no description and the basic engine is completed by making the ornamental pillars which hold the spring loaded centre pins to keep the cylinders up to the port faces. In the Victorian engines these were usually screwed so that they could be adjusted but with varying temperatures and hence

Full-size plans for the 42in. long, 1in. to 1ft. steam launch Miranda and for the twin-oscillating steam engine and boiler are available from Model Boats Plans Service, Wolsey House, Wolsey Road, Hemel Hempstead, Herts., HP2 4SS. Please quote Plan No. MM1348, price code G, £3.60 plus 45 pence postage for steam launch; MM1349, price code F, £2.95 plus 45 pence postage for engine and steam plant. Both plans are available for a total of £6.55 plus 60 pence postage.

differing expansion they were always either too tight or too loose and leaky. So I have made them spring loaded and I think the drawing in E9 shows all that is necessary. The actual movement needed against the springs need only be a few thou. — $\frac{1}{32}$in. is ample.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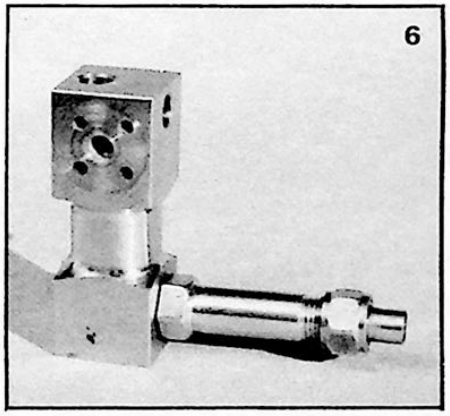
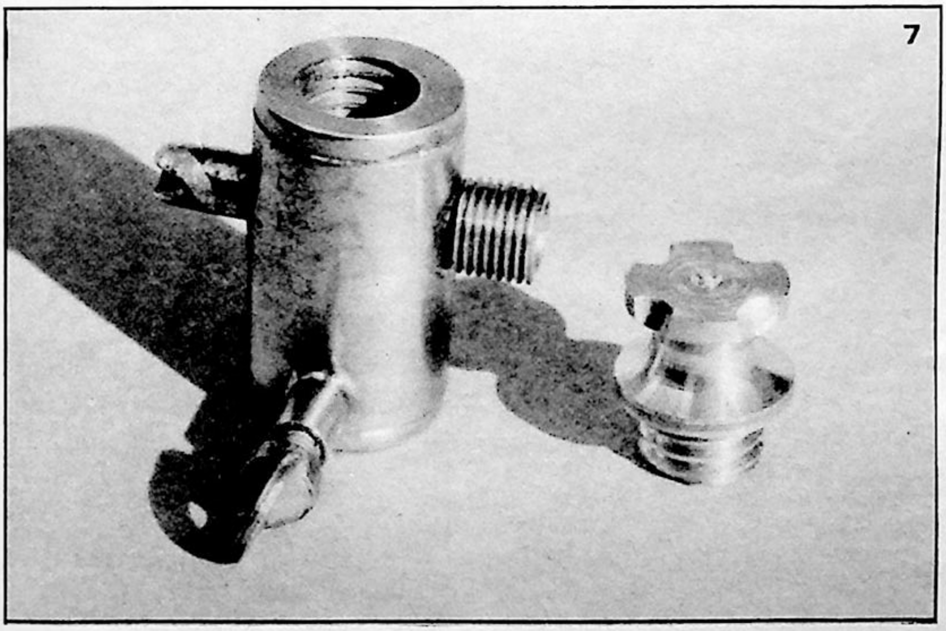
Assembly

Engine assembly should present no problems. Make *thin* paper gaskets to go under the top and bottom cylinder covers and soak them in linseed oil before fitting. Check that all moves freely, even if stiffly, with no pronounced 'sticking' points. If necessary use a mild abrasive like 'Brasso' to grind together the port faces but don't forget to wash it all away with petrol before oiling it and running it.


6

We have now reached a first major achievement point since the engine should now run on compressed air — in one direction if supplied through the left hand union, the opposite if fed from the right hand one. This is the basis of the controller with which is coupled a displacement lubricator. But if your engine runs well (after a few adjustments, perhaps) and doesn't leak at all the joints and steam faces (it will in any case get better as it is run in) then the major job is over and you can look forward to having your own steam powered boat with your own engine. There's a lot more to do, however, so let's conclude the engine construction with the controller and lubricator shown in Drawing E10 and Photos 6 and 7.


7

Controller and lubricator

Oscillating engines are very easy to control. Having no complicated valve gear, all that is necessary is to provide means of changing over the steam and exhaust ports. This is done with a two-way valve with a 90° movement having the two port faces held together with a spring much as the engine valve gear. Full ahead is at one extreme, full astern at the other, 'stop' is in the middle and varying speeds are in-between. This valve can be coupled without any problems to a standard radio control servo.

The control pillar is made from a short length of $\frac{1}{2}$in. square brass bar and is another hole drilling exercise. So long as reasonable care is taken at the MOD stage and the port face is kept flat there should be no problems. You will see that the exhaust steam passage is blocked off at the bottom by the screw fixing it to the baseplate; pressure is always low at this point. The displacement lubricator will ensure a good supply of oil to all working surfaces. There is a small drain plug at the bottom to let the water out after a run. The displacement lubricator works by allowing some of the steam to condense (since it is away from the heat) and, as it does so the condensed water displaces the oil which is slowly pushed up into the steam line and so through the engine.

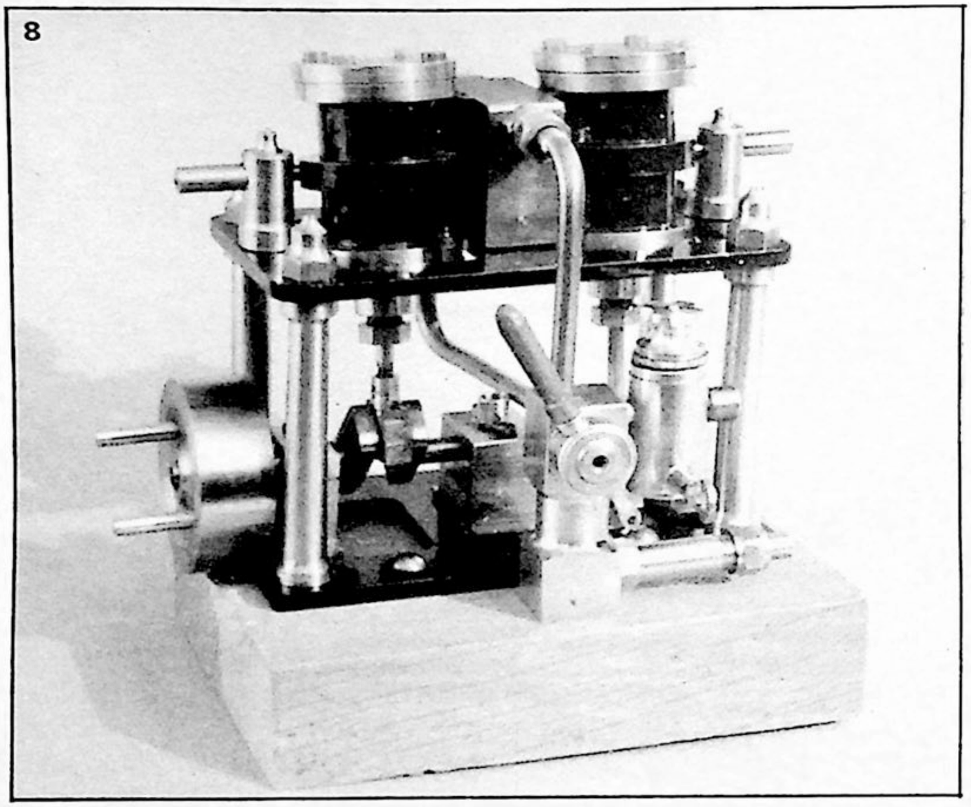
The finished engine (still on a temporary wooden base) is shown in Photo 8.

The boiler

The boiler is made of copper with silver soldered joints. It has been designed as a fairly simple modification of a horizontal pot boiler with the addition of six fire tubes to increase its efficiency without making it too difficult for a beginner to construct. Drawing B1.

I'm not going to discuss the techniques of silver soldering — I have already mentioned the Johnson Matthey Metals booklet. It is essential to have enough heat available to get the job red hot and if you have powerful equipment you are likely to know how to use it. If you have not, but can nevertheless use, say, a Technical College's works, local plumber's or a garage's blow torch then someone will be there to help. In my case I used, for the first time, a friend's oxy-acetylene torch with complete success though it is really a bit too fierce and you are liable to melt the copper if you are not careful.

I do not recommend soft soldering a boiler of this nature under any circumstances. Apart from lack of strength at working temperatures, in the event of a fouled propeller and stalled engine there is always the risk of the boiler running dry and all the joints melting in mid-ocean. A silver



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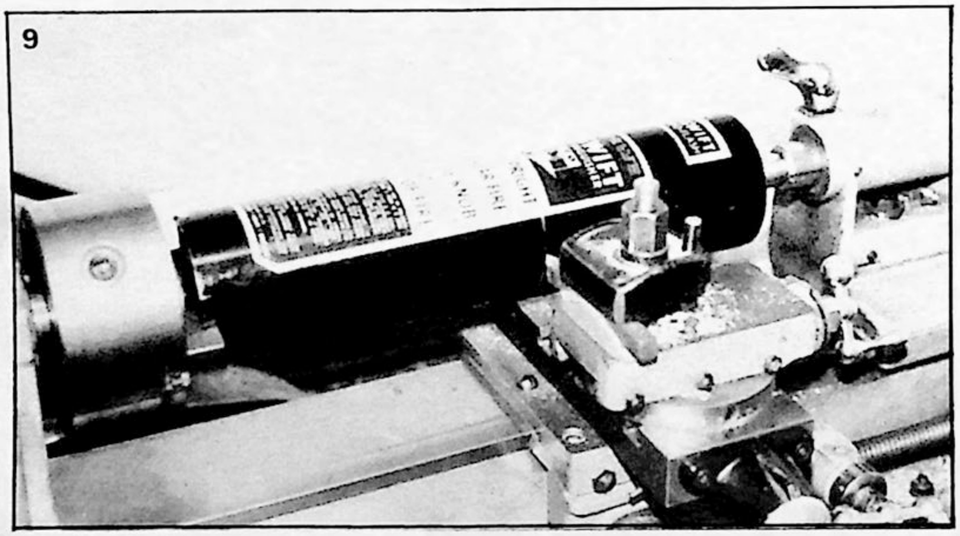


9

soldered boiler will stand this with no damage afterwards.

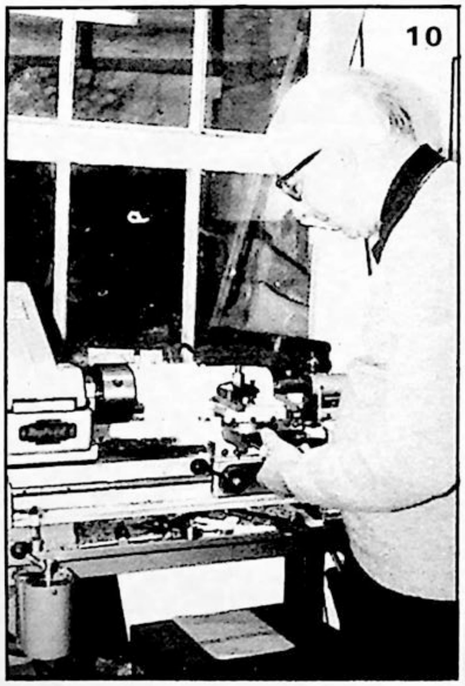
The shell is a piece of solid drawn copper tube 1/16in. thick about 2¾in. diam. OD. Mine was cut from a discarded fire extinguisher which I happened to have. It had been tested to 375psi and I retained the silver soldered domed end. I had therefore only to fit one flanged end, together with the six fire tubes 15mm dia. which were off-cuts from the central heating system. Copper is nasty stuff to machine — it is 'sticky' to cut — and the use of a cutting lubricant is almost essential to get a clean cut. Paraffin works well and so does milk. Photo 9 shows my tube in the lathe. Before attempting to face off the end(s) of the shell tube, or drill the flue holes, make a tight fitting wooden plug, photos 10 and 11. This will enable the shell to be chucked and drilled without any distortion. When the plug is to be removed it can either be knocked out or, if too tight, drilled out in bits.

Boiler ends

The boiler end (or ends) is a disc of 1/16in. thick copper which has to be flanged up. This is a fascinating and really very easy job, though a noisy one. The disc is cut about ¾in. larger in diameter than the inside diameter of the shell tube. Turn up a hardwood former, about ¾in. thick and of the same diameter as the *inside* of the shell *less* twice the thickness of the end plate.

You will also need another disc a little smaller in diameter — say about ⅛in. less. Anneal the copper disc by heating it to dull red and cooling it. Unlike steel it doesn't matter whether it is cooled fast (in water) or slowly in air, it will be nice and soft to work. Then centre it, like the meat in a sandwich, between the wooden discs, clamp in a vice and gently hammer the protruding copper. Photo 12 shows this in action. Don't attempt more than, say, 10°, working round the disc taking care not to produce creases. You may be surprised how quickly the copper work hardens and after going round with a light hammer two or three times the disc will have to be annealed again. Mine took six or seven annealings before the end was fully flanged. If your measurements are right the boiler end should almost slide into the shell. By now the copper will be firmly set on to the wooden former after the final round with the hammer so it can be put in the lathe chuck and carefully skimmed (or filed, but don't tell the purists) so that it will be a push fit in the shell.

Holes for bushes for the pressure gauge



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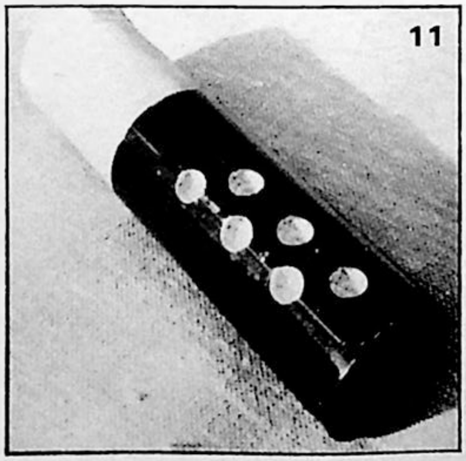
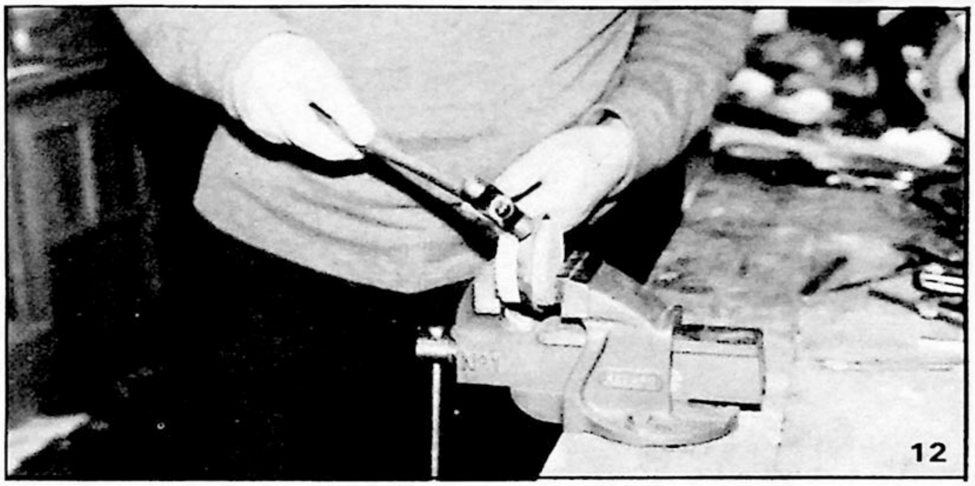


11


12

and water gauge if you are going to fit one can now be marked out and drilled using a lubricant on the drill. The shell itself can also be drilled for the flue tubes, the filler/safety valve bush and the holes for the two blind tapped bushes which accommodate the studs for holding the smokebox. Start (with the wooden plug in place) with ⅛in pilot holes for all and gradually work up to the appropriate sizes using a slow drill speed and lots of paraffin. I had only a ½in drill available so I filed out the holes to fit the 15mm flue tubes after the wooden plug has been removed. Drill each of these big holes from its marked position — do not attempt to drill right through and out the other side since it is most unlikely that you would do this with any accuracy. Photos 11 and 13 show stages in the boiler preparation.

Assembly

Clean and degrease all, assemble the tubes and bushes making sure that they are all a close fit. The tubes can be expanded into the holes with a taper drift if necessary to stop them moving during the heating. Cover all the joints with an appropriate flux and get on with the silver soldering — Easyflow No. 2 is a good moderate melting point solder. It should indeed flow easily and when the joints show up with thin silvery lines you can be reasonably confident that you have a sound junction. Let the job cool to below red heat and drop it in a bucket of water. This will help to knock the solidified flux off it.

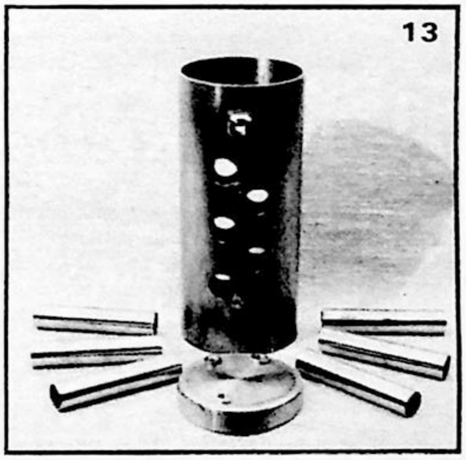
The next job is to fit screwed plugs in all but one of the bushed holes and put some compressed air in the remaining one. An ordinary car or bicycle tyre pump will do for this. Then, immersed in a bucket of water any leaks will show up as bubbles. However careful (or skilled) you are you are likely to get a few after the first heat and so it's back to the hearth and the application of a little more flux and solder in the appropriate places.

Made to the drawings this boiler is designed to have a working pressure of 50psi, though in practice the safety valve will be set to blow off at about 35psi. Before steaming this, or any, boiler an hydraulic test should be given to twice the working pressure. There are two ways in which this can be done and in any case you will need a pressure gauge with which to measure it. If you have a boiler feed pump then you can use this to provide the pressure.

In my case I adopted a very old and easy method. The boiler is plugged, and the pressure gauge fitted, and then filled right up full with water. Shake the boiler to make sure no air bubbles are left — it must be full. When all is sealed up apply gentle heat to warm it up with a gas torch. As the water is warmed the pressure will rise as it expands and long before it is too hot to touch the pressure gauge will be registering something like 40 or 50 psi. I let mine rise to 100psi (twice the designed working pressure) and then removed the flame and let it all cool down. Should there be any weeps or leaks the pressure drops rapidly, of course, and these must be sealed before the boiler is tested again and passed.

Boiler fittings, including pipe unions, can either be made or purchased. The safety valve I have designed is made to a late Victorian toy pattern. This is a straightforward enough job (Drawing B3) on the lathe making use of an O ring to seal the valve. Most of us will buy our pressure gauges ready made. Although I bushed my boiler for a water gauge I have not yet fitted one. Unless you have a feed pump on the vessel you have to stop and re-fill the boiler each time the burner is replenished and a measured quantity of water is the easy way to do it.

(Next month — completing the steam plant — starting on the hull construction).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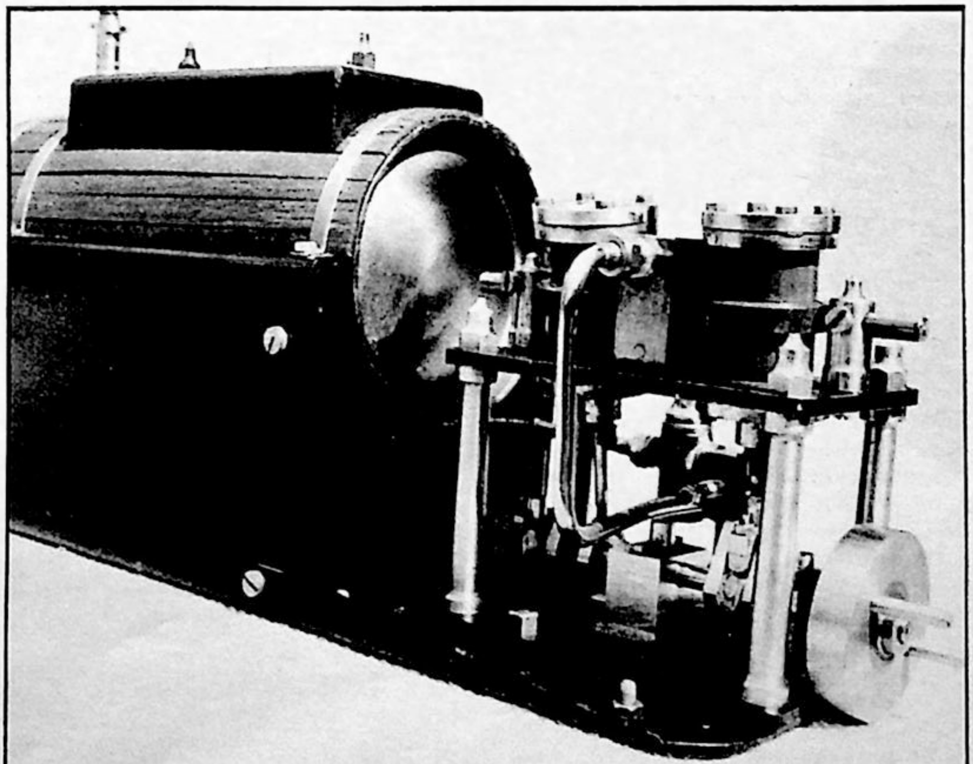
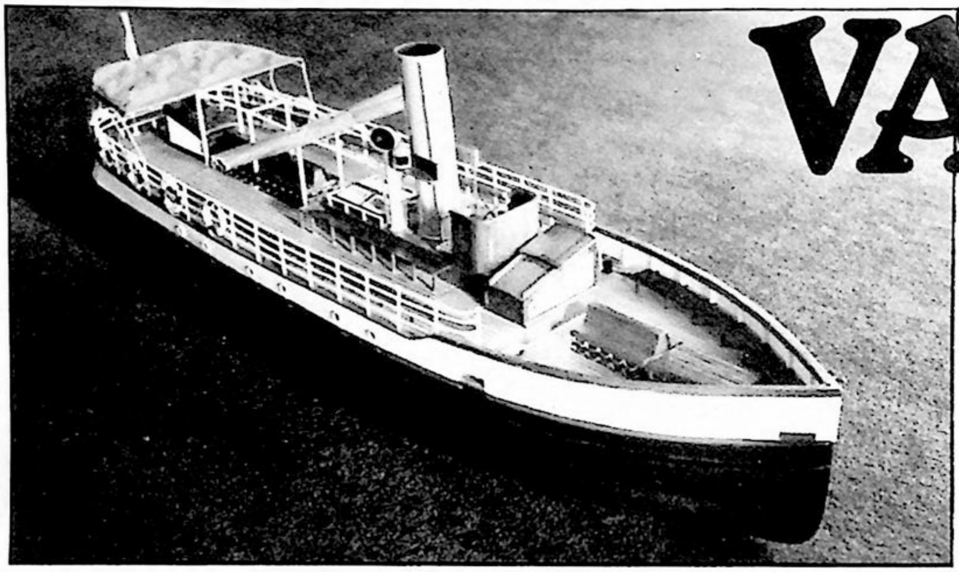


Another view of the completed steam plant. Casing and, smoke box details next month.



VAROS

A steamboat with a long and varied career — 36in. long by 9½in beam.

Described and Photographed by Richard Webb

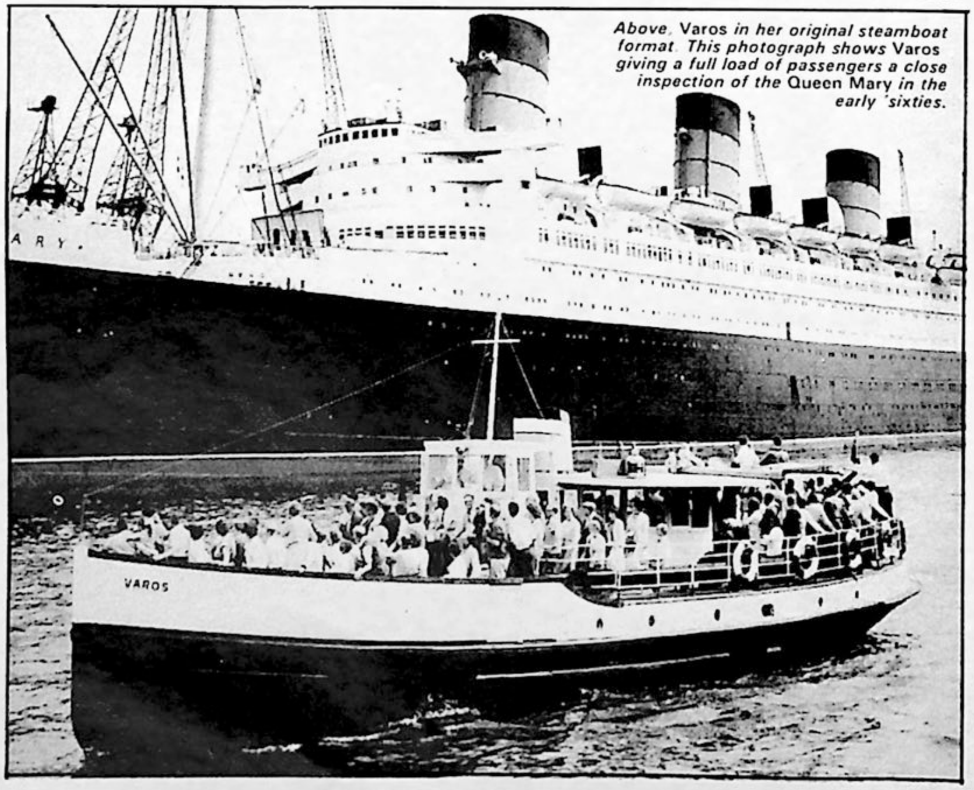
When I was a schoolboy in the late 1950s I regularly went fishing on Southampton Pier. I used to admire the steam boat *Varos* that took passengers for one-hour trips around the docks for half a crown. One day I asked if I could see the engines on the boat and was taken down to see them by the engineer. That was the start of my association with the *Varos*. Soon I became the boat boy and every holiday and weekend was spent down on the boats. I have stayed friends with the owners of the boat and taken an interest in her ever since.

History

The history of the boat began in 1913 when the Gosport Ferry Company ordered two boats from Edwards and Co. of London, the *Verda* and *Varos*. The keel and frames of the *Varos* were completed when the 1st World War broke out in 1914 and building was stopped to allow naval work to be done. At the end of hostilities in 1918 the work was restarted and in 1919 she was completed. She was used on the Gosport to Portsmouth passenger ferry service until 1939 when she was requisitioned by the navy as a harbour interception vessel in the Solent approaches. After the war she went back on the ferry service until 1956 when she was sold to Favourite Boats (now Blue Funnel Steamers) of Southampton for harbour trips.

The foredeck originally had only two rows of chain on metal stanchions so that cyclists with their machines could stand for the journey. The new owners replaced the chains around the foredeck with solid bulwarks and seats and built a bar in the after saloon. This is how I first knew the *Varos* and how I have drawn her with the steam superstructure. In 1960 she was converted to diesel for economic reasons, and had a small deck saloon added just aft of the open bridge. This saloon, incidentally, came from the paddle steamer *Empress*, the last paddle steamer with oscillating engines.

Two years later the new wheelhouse and deck saloon (as in the main drawing) was added, and she continued to ply the Solent and Southampton Docks until 1979. The sides of the deck saloon were modified outwards to the handrails in 1975. In 1980 she was sold to Coakly Launches of Southend on Sea for work on the Thames. She still trips up and down the Thames from Tower Pier and will, I hope, do so for quite a few more years. Sixty-three years is quite a record for a boat in continuous passenger service, 41 years on the boiler and steam engine and 22 years on the same Gardiner diesel engine. The boat itself is steel plated on 39 angle iron frames rivetted throughout. She has a teak deck and varnished teak companionway, seats, rafts and bridge. The original boiler was coal-fired and supplied steam at 95 p.s.i. to the 150h.p. 9in. dia. and 18in. dia. compound engine, with a seawater cooled condenser. The diesel

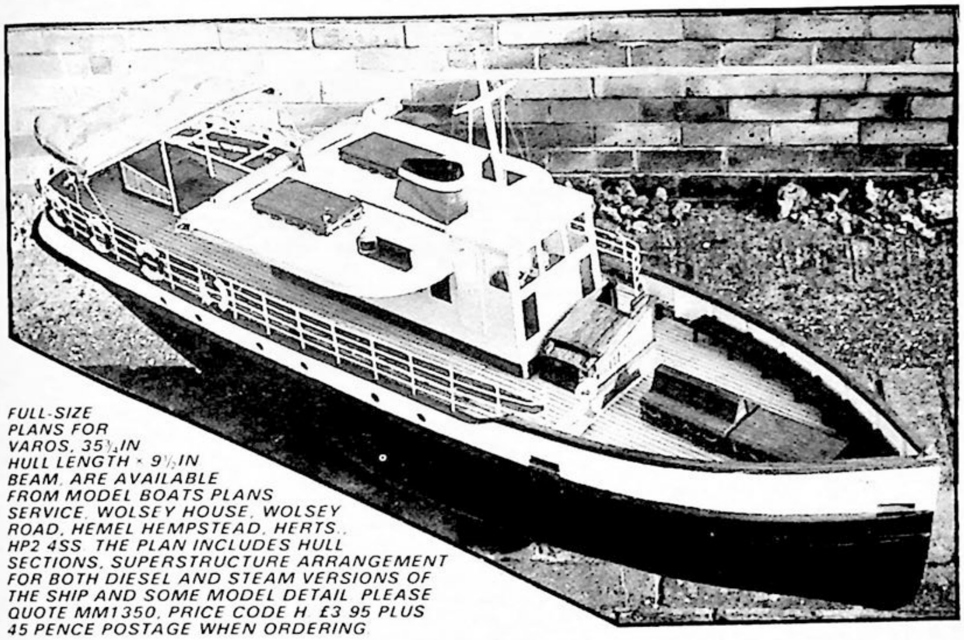


Above, Varos *in her original steamboat format. This photograph shows* Varos *giving a full load of passengers a close inspection of the* Queen Mary *in the early 'sixties.*

engine fitted in 1960 was a Gardiner 114HP 6L3, 6-cylinder. The boat's capacity was 150 passengers, with a crew of four under steam and three under diesel. She must have carried several million passengers in her time, possibly a record for a boat of her size.

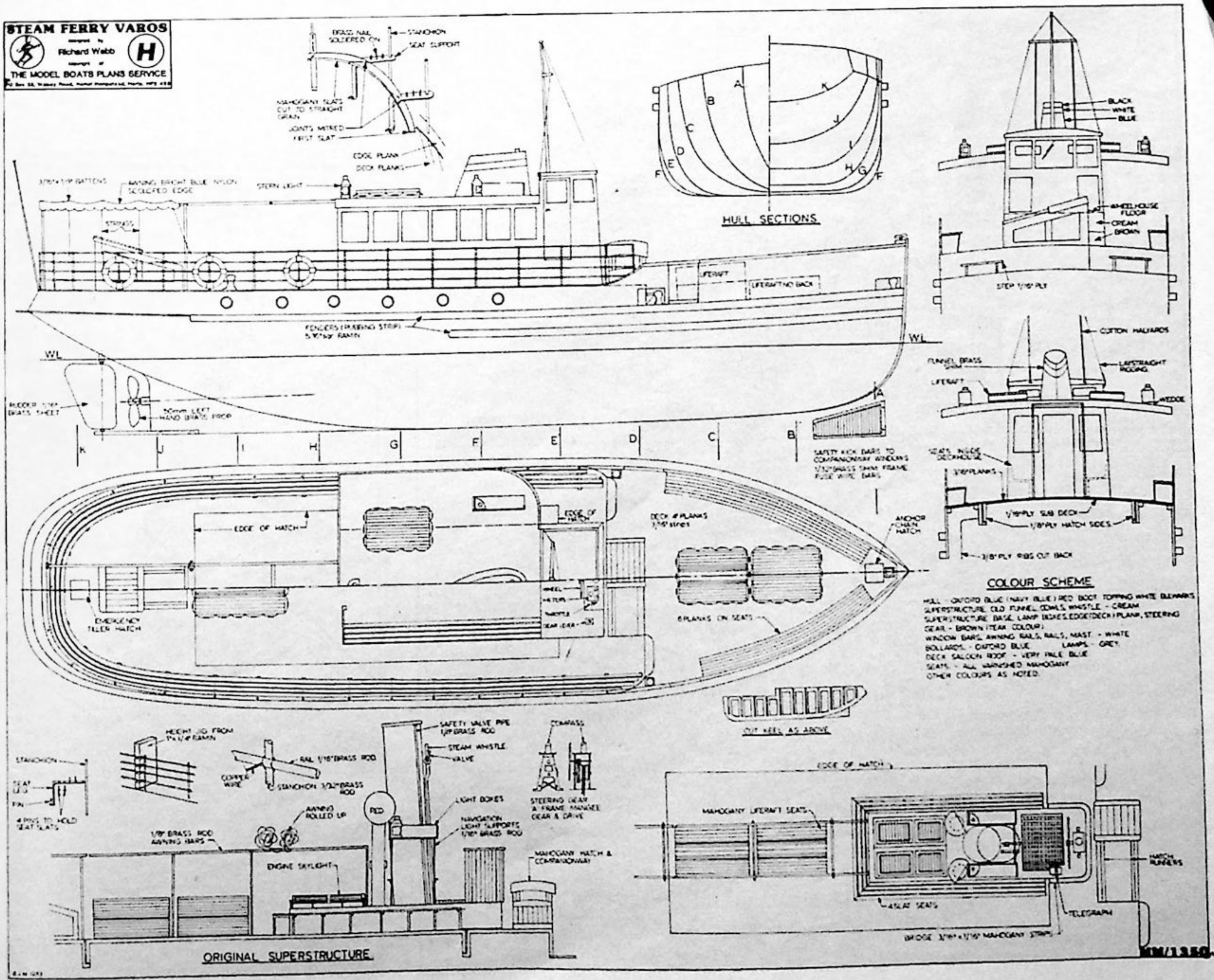
The Model

When I first knew the *Varos* as a schoolboy I dreamt of making a model of her, but it seemed a daunting task then, so I settled for a *Titan* tug instead. Two years ago the dream was still there, so I decided to make some measurements and drawings, a lucky move since the *Varos* went to London soon after. Eventually I started work on the actual model, which is now complete with two superstructures. The sister ship, the *Verda*, had a very similar history, and is still in Southampton with Blue Funnel. From her deck I saw the cavalcade of tall ships, and the QE2 leave and return from the Falklands.



Left,* Varos *sporting her modern diesel superstructure.

FULL-SIZE PLANS FOR VAROS, 35¾IN HULL LENGTH × 9½IN BEAM, ARE AVAILABLE FROM MODEL BOATS PLANS SERVICE, WOLSEY HOUSE, WOLSEY ROAD, HEMEL HEMPSTEAD, HERTS., HP2 4SS. THE PLAN INCLUDES HULL SECTIONS, SUPERSTRUCTURE ARRANGEMENT FOR BOTH DIESEL AND STEAM VERSIONS OF THE SHIP AND SOME MODEL DETAIL. PLEASE QUOTE MM1350, PRICE CODE H. £3.95 PLUS 45 PENCE POSTAGE WHEN ORDERING.

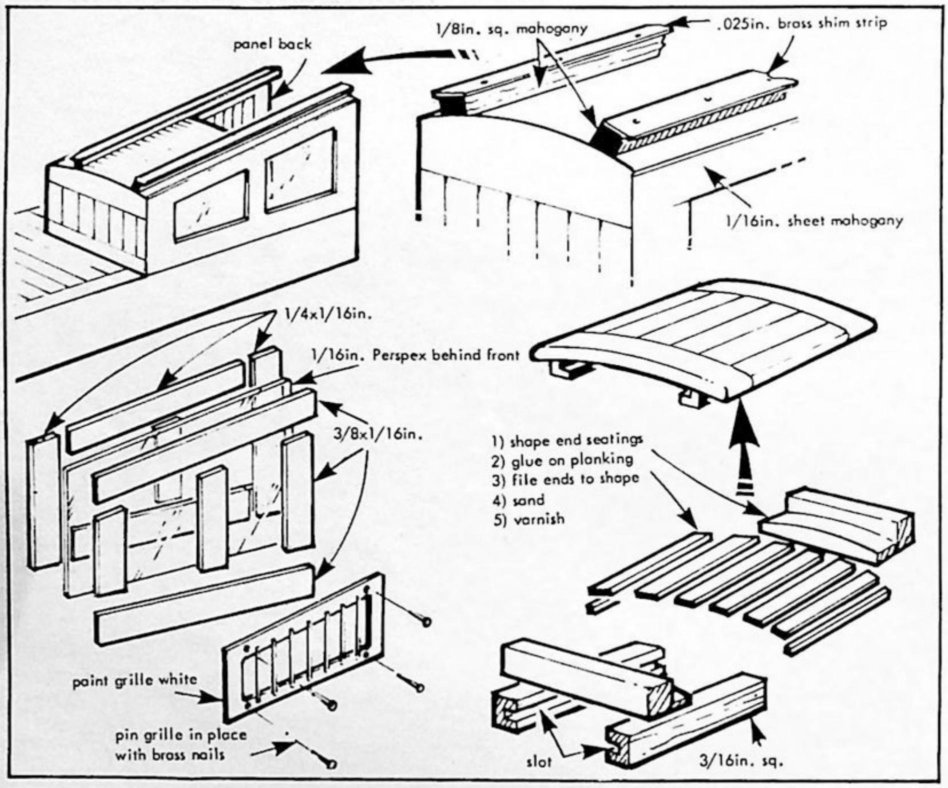

STEAM FERRY VAROS
designed by
Richard Webb
copyright of
THE MODEL BOATS PLANS SERVICE
H
BRASS NAIL SOLDERED ON
STANCHION
SEAT SUPPORT
MAHOGANY SLATS CUT TO STRAIGHT GRAIN
JOINTS MITRED
FIRST SLAT
EDGE PLANK
DECK PLANKS
AWNING BRIGHT BLUE NYLON SCALLOPED EDGE
STERN LIGHT
STRINGS
LIFERAFT
FENDERS (RUBBING STRIP)
WL
RUDDER
HULL SECTIONS
A
B
C
D
E
F
G
H
I
J
K
BLACK
WHITE
BLUE
WHEELHOUSE FLOOR
CREAM
BROWN
COTTON HALYARDS
FUNNEL BRASS
LIFERAFT
SAFETY KICK BARS TO COMPANIONWAY WINDOWS
EDGE OF HATCH
DECK PLANKS
ANCHOR CHAIN HATCH
EMERGENCY TILLER HATCH
PLANKS ON SEATS
WHEEL
THROTTLE
GEAR LEVER
SEATS INSIDE DECKHOUSE
1/16" PLY SUB DECK
1/8" PLY HATCH SIDES
3/8" PLY RIBS CUT BACK
COLOUR SCHEME
HULL - OXFORD BLUE (NAVY BLUE) RED BOOT TOPPING WHITE BULWARKS
SUPERSTRUCTURE, OLD FUNNEL, COWLS, WHISTLE - CREAM
SUPERSTRUCTURE BASE, LAMP BOXES, EDGE (DECK) PLANK, STEERING GEAR - BROWN (TEAK COLOUR)
WINDOW BARS, AWNING RAILS, RAILS, MAST - WHITE
BOLLARDS - OXFORD BLUE LAMPS - GREY
DECK SALOON ROOF - VERY PALE BLUE
SEATS - ALL VARNISHED MAHOGANY
OTHER COLOURS AS NOTED.
CUT KEEL AS ABOVE
STANCHION
SEAT
PIN
4 PINS TO HOLD SEAT SLATS
RAIL 1/16" BRASS ROD
COPPER WIRE
STANCHION 3/32" BRASS ROD
AWNING ROLLED UP
1/8" BRASS ROD AWNING BARS
ENGINE SKYLIGHT
SAFETY VALVE PIPE
STEAM WHISTLE
VALVE
RED
LIGHT BOXES
NAVIGATION LIGHT SUPPORTS
COMPASS
STEERING GEAR
MAHOGANY HATCH & COMPANIONWAY
EDGE OF HATCH
MAHOGANY LIFERAFT SEATS
HATCH RUNNERS
4 SLAT SEATS
TELEGRAPH
ORIGINAL SUPERSTRUCTURE
MM/1350

The model is made on a ⅜in. ply keel frame with ⅜in. ply bulkheads slotted into it (robust). The bulkheads and keel have all their centres removed as in the sketch (incorporated on plan).

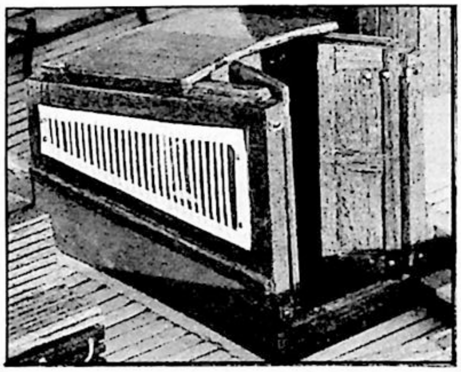
When I was satisfied that all joints were correct the bulkheads were dry fitted into the keel so that the ¼in. square ramin stringers could be marked on each bulkhead.

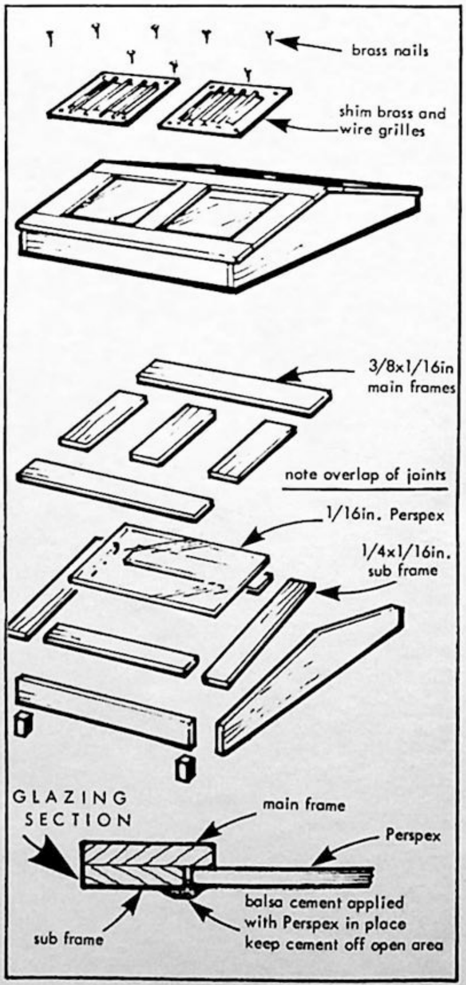
The slots for the stringers were then cut out with a coping saw. The bulkheads were then glued to the keel with Cascamite. The ¼in. square ramin stringers were then pinned and glued making sure the whole structure did not twist. The sections at the bows and stern were blocked with jelutong (hard balsa or pine would do). These blocks were glued in, and when dry, filed to shape and sanded. The 1/16in. ply planking started at the gunwhales and the first plank was also the forward bulwark. This plank was 2½in. wide and cut to shape using cardboard templates. The rest of the planks were ½in. wide, 1/16in. thick ply. These were fixed one to each side of the boat to stop any chance of twisting the hull. The planks were pinned and glued with Cascamite to each bulkhead. The planks covered the bow and stern blocks, were tapered to fit as required, and continued right down to the keel.

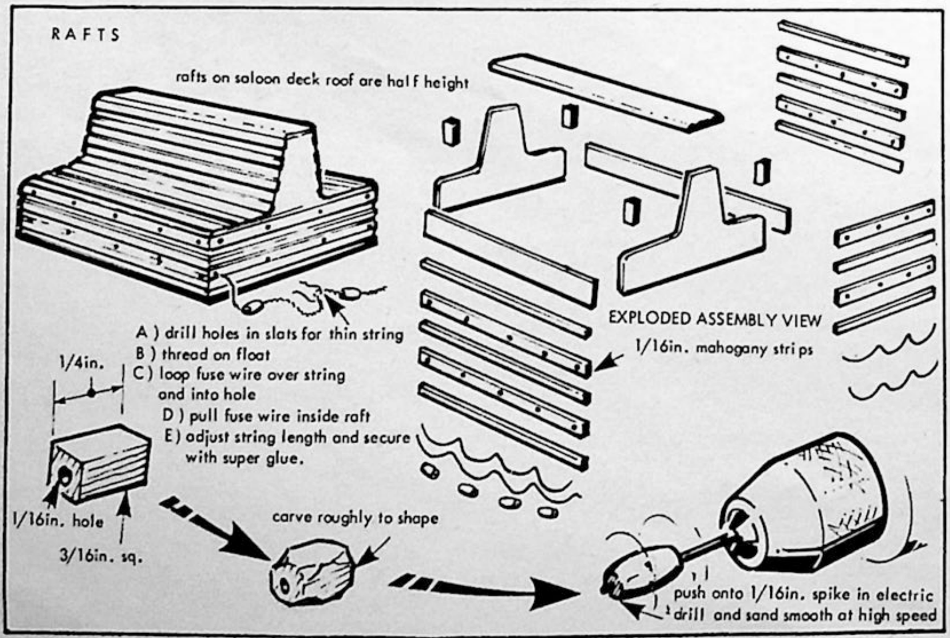
When the planking was complete the surplus wood from the keel (frame) was removed and the outside of the hull covered with masking tape to stop the resin leaking out in the next process. Glass cloth was first cut out so that a piece of cloth fitted each panel between bulkheads and stringers. The hull was next resined and the fibreglass cloth too, with ½-litre of Strand Glass Resin. Twenty-four hours later when the resin had cured, the masking tape was removed and it was found that the resin had penetrated all the joints forming a very strong watertight hull. The next task was to sand the hull, and this was done with a sanding disc in my electric drill. Plastic

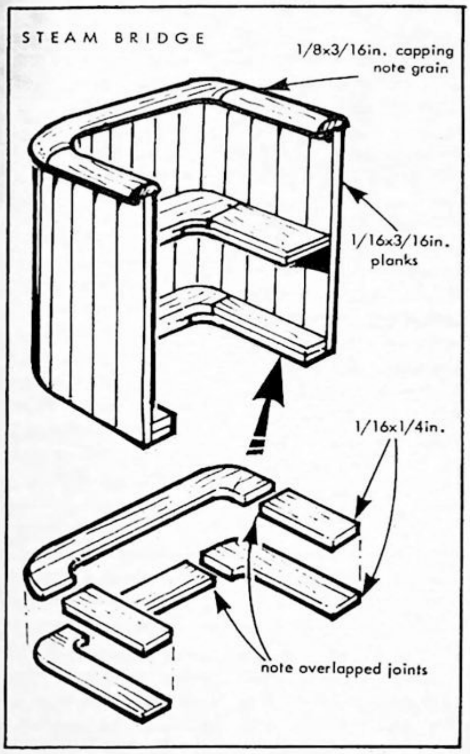

panel back
1/8in. sq. mahogany
.025in. brass shim strip
1/16in. sheet mahogany
1/4x1/16in.
1/16in. Perspex behind front
3/8x1/16in.
1) shape end seatings
2) glue on planking
3) file ends to shape
4) sand
5) varnish
paint grille white
pin grille in place
with brass nails
slot
3/16in. sq.

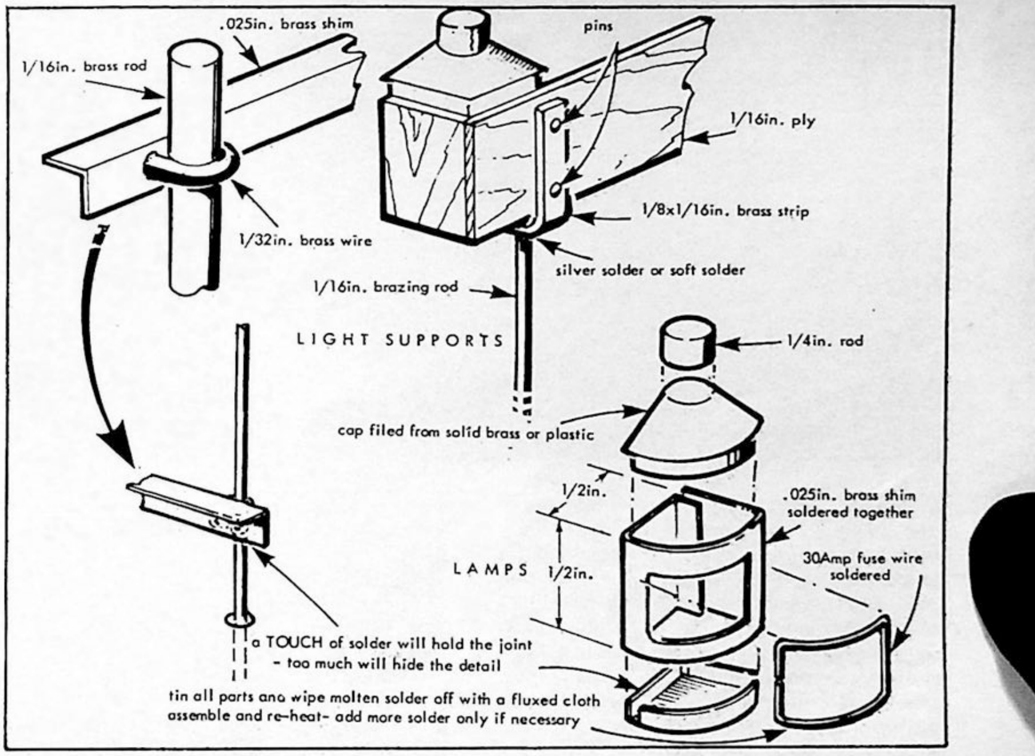
Details of the companionway.

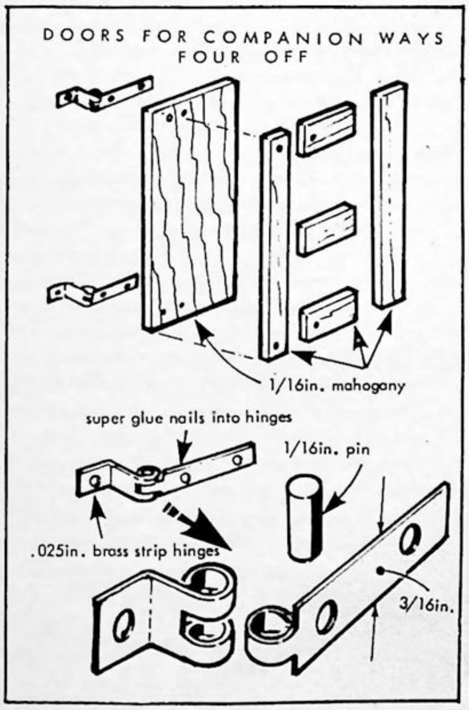


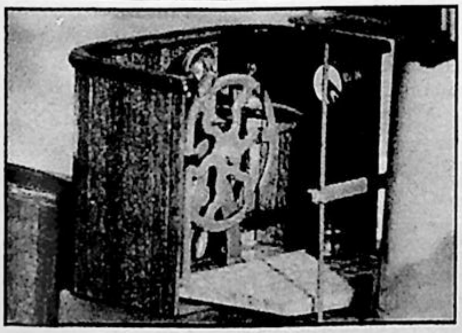

brass nails
shim brass and
wire grilles
3/8x1/16in
main frames
note overlap of joints
1/16in. Perspex
1/4x1/16in.
sub frame
GLAZING
SECTION
main frame
Perspex
sub frame
balsa cement applied
with Perspex in place
keep cement off open area


RAFTS
rafts on saloon deck roof are half height
EXPLODED ASSEMBLY VIEW
1/16in. mahogany strips
A) drill holes in slots for thin string
B) thread on float
C) loop fuse wire over string
and into hole
D) pull fuse wire inside raft
E) adjust string length and secure
with super glue.
1/4in.
1/16in. hole
3/16in. sq.
carve roughly to shape
push onto 1/16in. spike in electric
drill and sand smooth at high speed


STEAM BRIDGE
1/8x3/16in. capping note grain
1/16x3/16in. planks
1/16x1/4in.
note overlapped joints


.025in. brass shim
1/16in. brass rod
pins
1/16in. ply
1/8x1/16in. brass strip
1/32in. brass wire
silver solder or soft solder
1/16in. brazing rod
LIGHT SUPPORTS
1/4in. rod
cap filed from solid brass or plastic
1/2in.
.025in. brass shim soldered together
LAMPS
1/2in.
30Amp fuse wire soldered
a TOUCH of solder will hold the joint - too much will hide the detail
tin all parts and wipe molten solder off with a fluxed cloth assemble and re-heat- add more solder only if necessary


DOORS FOR COMPANION WAYS FOUR OFF
1/16in. mahogany
super glue nails into hinges
1/16in. pin
.025in. brass strip hinges
3/16in.

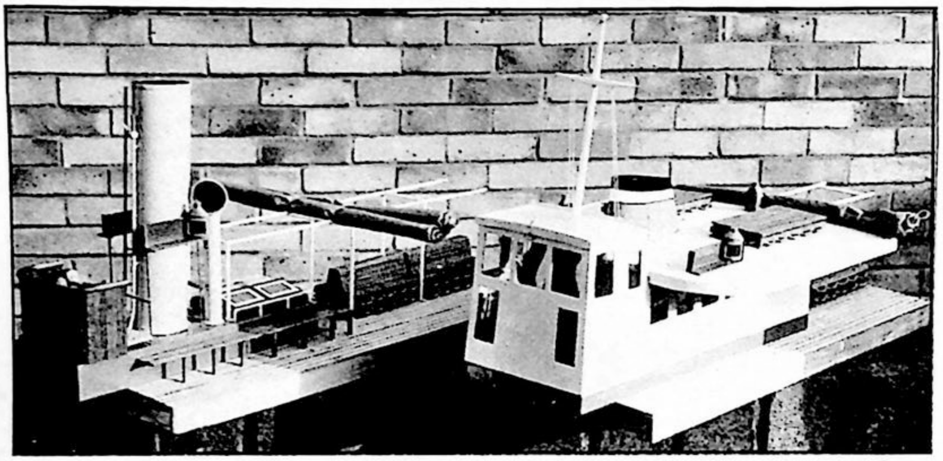


Padding Elastic was used to fill any hollows, the final rubbing down being done by hand with a block of wet and dry. The hatch sides were marked on the tops of the bulkheads. The centre sections of these bulkheads were then cut out. The hatch sides were then pinned and glued to the bulkheads. A $\frac{1}{16}$in. ply sub-deck was pinned and glued to the top of the bulkheads, gunwhales and hatch sides. The hatch was made and fitted. The planking of the decks was next. I started to plank from the hatch sides and worked outwards towards the gunwhales. When this was complete I planked in to the centre and then the hatch, making sure the caulking lined up. The only plank which needed planing was the centre one, as in the real boat. I used 5-min. epoxy for the planking with metal weights to stop the planks moving whilst the glue set. When all the planking was finished I cut the outer plank to shape using cardboard templates.

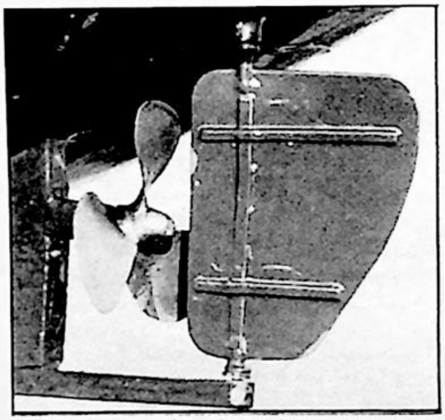
This plank is $\frac{3}{8}$in. wide from the gunwhales and is painted brown. The slots between the planks were cleaned out with a broken hacksaw blade similar to undercutting an electrical commutator. I then started to do the caulking.

I used a 6in. rule as my caulking chisel, and thin black knitting wool as the caulking. This worked very well indeed and the final result was very pleasing. When the caulking was completed I varnished the decks with five coats of matt Ronseal, to seal the wool, and which I found a very pleasing part of the job. If required, the decks can be lined with a marker pen to simplify the job. The next task was the $\frac{5}{16}$in. square rubbing strakes. They were made of beech, and bent by putting them across two blocks, laying a heavy weight in the middle and leaving for a week. They were offered up to the hull and the bulkhead positions were marked on them. One eighth in. holes were then drilled and countersunk. I used fibreglass resin as glue on these rubbing strakes and screwed them on with $\frac{3}{4}$in. No. 4 countersunk brass screws. The thin rubbing strake around the stern was a piece of $\frac{1}{16}$in. ply cut to the correct shape and slotted into the stern blocks with a saw cut $\frac{1}{4}$in. deep.

The railing and seat supports are a very important feature on this boat and had me wondering how to make them, but they turned out quite easy in the end and look very good. I started by making the seat supports out of $\frac{1}{32}$in. thick brass sheet, $\frac{1}{8}$in. wide. These were cut and drilled to take the stanchions and nails. Four brass nails were soldered facing upwards to hold the seat slats. The supports were then soldered to the stanchions which were made of $\frac{1}{16}$in. brazing rod. One sixteenth in. holes were drilled around the edge of the deck to take the stanchions and 1mm holes drilled to take a brass nail on the foot of the seat leg. The stanchions and seat supports were then fitted to the deck and lined up to the correct height and a drop of superglue was put at the base of each stanchion to hold it there. The handrails were also made of $\frac{1}{16}$in. brazing rod and these were soldered to the stanchions using a jig to align them to their correct height. The method used was to approximately position the four rails with temporary ties, and the jig was inserted next to a stanchion. Five-amp fuse wire was used to hold the rails to the stanchions.



Above, the steam and diesel superstructures. Below, close-up of propeller and rudder assembly. Bottom, stern companionway, seats and sun canopy



I worked round the boat doing each stanchion in turn and this proved very effective. The copper fuse wire enabled the solder to form a blob on the joint and when this was cleaned up with coarse emery cloth and painted white the rails looked very good. In service these rails have proved very strong, on many outings only a small amount of paint has been chipped with no damage to the rails at all.

The seat slats were made of 1/16in. thick mahogany, 3/16in. wide. Each length of slatting was cut and sanded, then drilled to 1mm to take the nails facing up from the seat supports. The slats were then pushed down over the nails and a drop of superglue put on each joint. The ends of the nails were nipped off with end cutters and carefully filed flat. The curved slats near the stern were cut using cardboard templates and the joints were mitred as shown. The portholes were made of ½in. o.d. brass tubing from an old cistern ball valve. These portholes were glazed with clear epoxy moulded in position to make a watertight joint. A friend of mine cut up a mahogany mantlepiece into 1/16in. thick strips 1in. wide on his tipped saw bench. I made all the seats, bulwark cappings, rafts and companionways with this, and varnished them. The deck saloon and wheelhouse were made of 1/16in. ply and glazed with 1/16in. Perspex.

The support's frames for the awning were made of ⅛in. brazing rod silver soldered together and pinned through the deck.

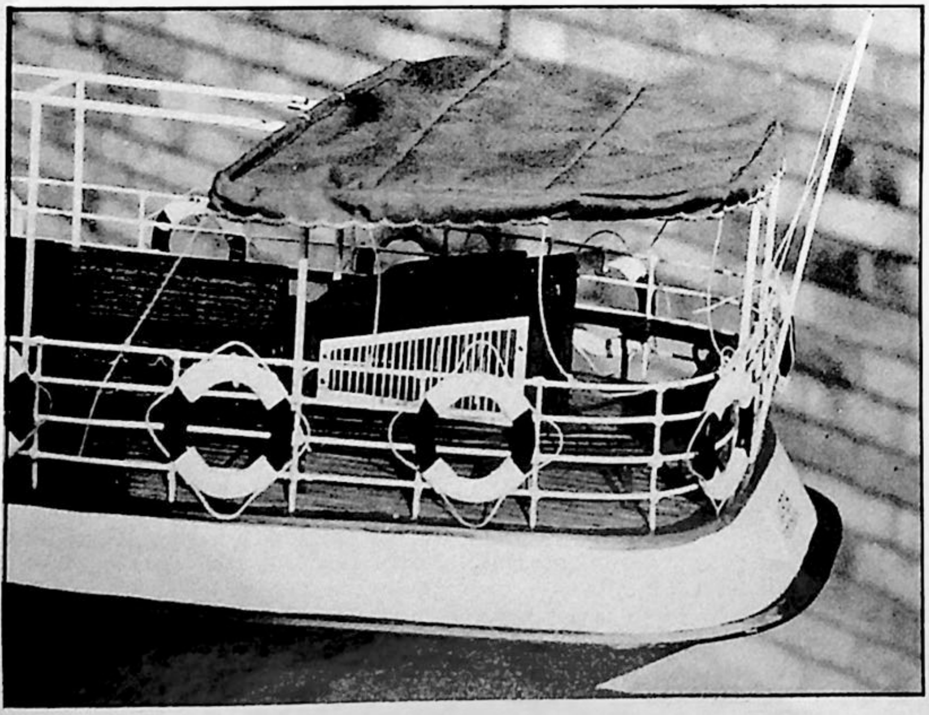
There is no weight problem with this boat, due to her width, in fact quite an amount of lead was used to get her down to the waterline. The engine room hatch windows and the companionway windows have metal bars over them. I made these with 25thou brass shim for the frames. One millimetre holes were drilled 3/32in. apart for the bars in the frame, which are 30-amp fuse wire soldered in. The navigation lamps I made of brass shim and coloured celluloid. The funnels were made of brass shim soft soldered together.

An interesting job was the engine room cowls on the steam version. These were made from ½in. Yorkshire pipe annealed and beaten into a hollow wooden block, then reannealed again and again until a good shape was produced. This proved very successful. A thin ring of copper wire was soldered around the opening to simulate a rolled edge.

I was lucky enough to get some samples of the real ship's paint, and most parts had four undercoats and four topcoats. I rubbed down between each coat with wet and dry. After the wood was sealed I did all rubbing down wet and washed off with clean warm water to eliminate any dust. All the painting was done with a brush, mostly squirrel hair.

The boat is fitted with a Johnson motor geared 2½ to 1 and this drives a 50mm left-handed 3-blade propeller. A left-handed propeller was fitted to the real boat to assist going astern from the pontoons. She kicks to starboard going astern. The motor is controlled by a home-made electronic speed controller based on the R/S 419 chip and 2 off 2N3055 transistors operating from a Futaba 2-channel unit. The lights are switched manually. Having two superstructures has proved a great success; it is like taking two boats to the pond and it seems to fascinate many people. The sister ship *Verda* is the same as the *Varos* and this name may be more popular with anyone who has travelled on her or who still lives in the south.

The boat model did not cost a great deal. The ⅜in. and 1/16in. ply came from a timber merchants, as did the 48in. x 24in., ⅜in. thick ply and the 50in. x 50in., 1/16in. ply. The fibreglass cloth and resin was from Strand Glass. The 1/16in. and ⅛in. brazing rods and the 25thou shim was from a large tool shop in Southampton called Lawsons and was bought by the length for the rods and by the inch for the shim. The rest of the materials were from the d.i.y. shop, my local model shop and of course, my scrap box. An old alarm clock was used for the steering capstan on the steam version.



MARINE Miscellany

by Basil Harley

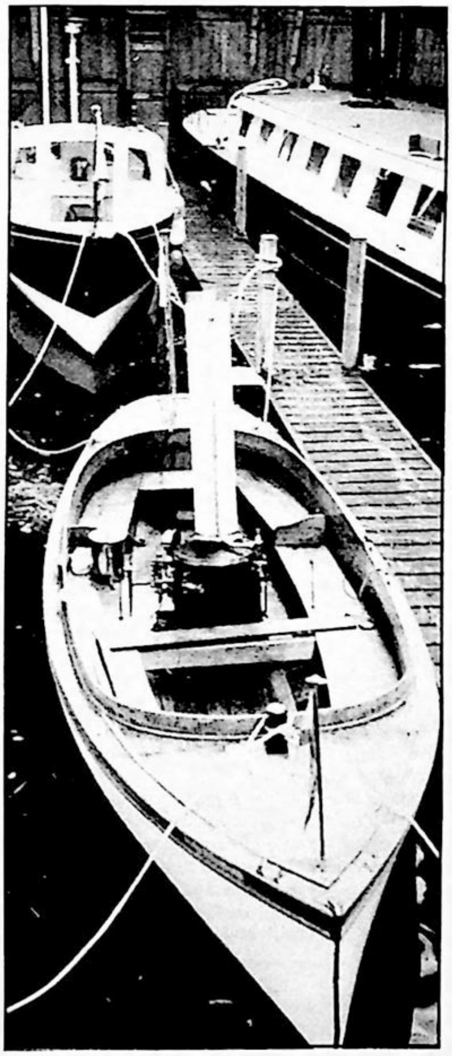
Something Quite Big

I know that many of you are interested in the rather larger model boats — encouraged, no doubt, by Will Mowll's stupendous *Great Britain* and Keith Townsend's lovely *Branksome*. Over the years the popular sizes probably haven't changed much though half a century ago when everyone worked to Imperial standards the most popular length was probably the one metre boat. Now we try to be metric in our thinking the metre boat hardly counts! A good example of the working of that well-known law.

Again, while the most common marine steam engine sizes seem to range around about ½in. bore and stroke there have been some really quite big and powerful engines (and castings for them) available commercially.

About the turn of the century and for a few decades beyond many an amateur workshop had its steam plant. Whilst the lathe was often treadle operated a steam boiler and engine provided power for saws and grinders, often electric light and, of course, a nice place for a warm near the boiler. The engines were often assembled, if not built entirely, by the amateur mechanics themselves and firms like Scott Homer of Cradley Heath in the Black Country, to take a typical example, supplied finished cylinders, pistons and crankshafts up to 2in. bore and stroke. That universal provider for the do-it-yourself technician, Gamages of Holborn, sold double acting *oscillating* cylinders up to 2in. bore by 4in. stroke with crankshafts to match and vertical boilers up to 4 feet high.

How many of these would have been made into marine engines it is impossible to say but Stuart Turner's range included the 5A (2¼in. bore by 2in. stroke) until the 1930s. This was a very fine marine engine developing over one horsepower. In fact today over a dozen small river steamboats belonging to members of the Steam Boat Association have vessels fitted with 5A engines, mostly with hulls some 12 to 15 feet long. One, however, the *Lady Elizabeth* belonging to George Pattinson of the Windermere Steamboat Museum, is 18 feet long and has a cruising speed of 5 knots. These are, of course, full sized boats but they would look small enough beside some early models made by Bassett-Lowke Ltd.



Lady Elizabeth *at the Windermere Steamboat Museum was salvaged in 1955 and is typical of the small launches of the 1895 period. Her efficient Lune Valley water-tube boiler raises steam in 10 minutes. The single cylinder engine propels the 18ft. long boat at up to 6 miles per hour and she is frequently used to this day for trolling for char, a freshwater fish of the salmon trout family.*

In 1913 the company was asked to produce a fleet of model warships for the United Services Exhibition to be held in London at Earl's Court. The ships were to be used to give demonstrations of naval battles on an artificial lake specially made in the Exhibition grounds. The largest of the models was over 30 feet long and all had crews of two or three men who steered them, fired guns (Brock's Fireworks did the bangs) and operated signal lamps and flags.

There were battleships, cruisers, torpedo boats and other craft and Bassett-Lowke tried them all out on the River Nene near their Northampton works before a large and enthusiastic crowd. Unfortunately I have no details of their engines; certain it was they weren't clockwork and, since it was 1913 I do hope they were steam. However the models were propelled, the publicity they got set Bassett-Lowke firmly on the way to being Britain's best known maker of top quality ship models.

TWO-DAY BANK HOLIDAY EVENT CLEETHORPES

(PROMENADE BOATING LAKE)

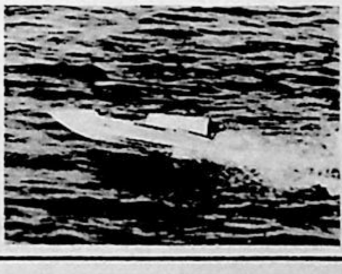
PRE-ENTRY TO:

J. WOODRUFFE (POWER)
6 CORPORATION ROAD
GRIMSBY
S. HUMBERSIDE

J. FOSTER (SCALE)
178 DURBAN ROAD
GRIMSBY
S. HUMBERSIDE

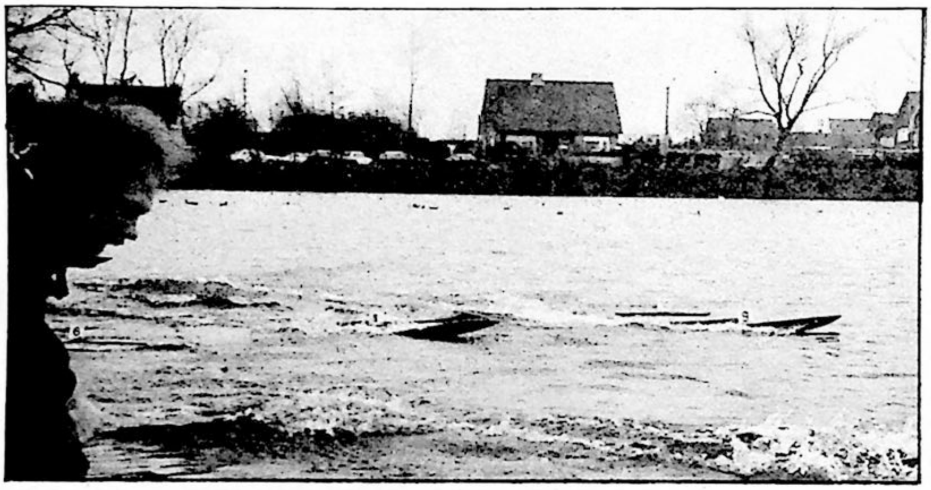
Sun. August 28th— 11 a.m.
SCALE STEERING
Scale Steering
Concours de Elegance

Mon. August 29th— 11 a.m.
MULTI RACING
Class A, B, C & S.I. & Junior
0.10cc. 2 × 30 mins. heats.
laps count.



ROUND the REGATTAS

Your report on events at home and abroad



Belgian International — April 1983

In recent years national competitions have attracted a growing number of club and local boaters. Now that these events are held in all areas even wider support is expected. The step into Europe, however, has, so far, been taken by only a few. I hope this report will make such competitions more accessible.

The Belgian International is not a typical event, being run rather early in the season. Fate and the weather are easily tempted, and certainly did a good job here. Everything from drizzle to small white lumps of ice fell from the sky. In addition, or possibly to warm us up for this, it blew force 10 on the ferry crossing.

We arrived at Boudewiju Park at 6 a.m. and the scene was not promising.

The Park itself boasted every possible facility, from bars and restaurants to an ice rink and dolphinarium. Many competitors brought wives and families, all of whom seemed to enjoy the amenities. The town itself, Brugge, in which the Park is situated, is very beautiful.

Full Naviga courses were already accurately laid for F3E, F1E and FSRE. The lake was huge. This seems to be generally the case with European International waters. It is also reflected in the development of the boats.

Competitors arrived from Sweden, France, Holland, Belgium and Germany. Racing started at 10 a.m. prompt, and continued on time throughout. The attitude of the Belgian organisers was helpful and friendly. Whilst they could not make the sun shine, their efforts in other respects almost made up for the cold and wet.

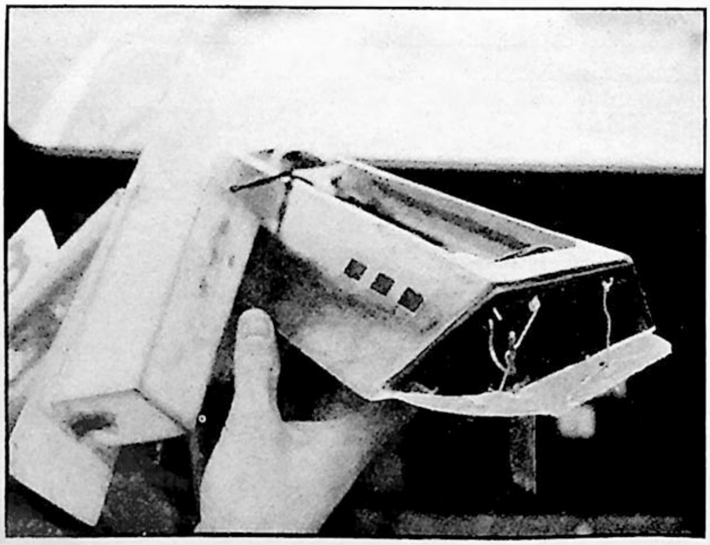
There are three things that can stop F1E. Weed was not there but wind and waves were. —1k was a fiasco, but the European +1k boats managed remarkably well. Manfred Schmidt's 17.70 with a *Ruess* hull 100/5 Keller and 30 BVYs would have been impressive in the flat.

My new 2 kilo boat was being baptised in the first multi heat. Stability is one of the advantages of a no cell-change boat. Mine rides high on the prop for efficiency and the gusts of wind were more worrying than the waves. It did not seem possible for a cell-change boat to survive out there, but I was wrong.

The de Witte brothers of Holland had built a most ingenious self-righting system into their boats and were quite unable to be deterred. Apart

FSRE Multi Restricted			
1. Jan Bleak	Netherlands	11.22 laps	*Weerdt*
2. Nick Rees	U.K.	11.25 laps	*Formula*
3. Luc de Witte	Netherlands	11.38 laps	*Witte*
+2k			
1. Heinz Keller	Germany	24.32 laps	*Ruess*
2. Manfred Schmidt	Germany	22.39 laps	*Multiamp*
3. Heinz Bouche	Belgium	21.05 laps	*Isotope*
2k			
1. Nick Rees	U.K.	30.30 laps	*Vuelo*
2. Wim de Witte	Netherlands	26.00 laps	*Witte*
3. Luc de Witte	Netherlands	25.28 laps	*Witte*
F1E Speed			
1. Manfred Schmidt	Germany	17.70 secs.	
2. Frank Gielis	Belgium	21.03 secs.	
3. Philippe Marchal	Belgium	22.15 secs.	
F3E Steering			
1. Frank Gielis	Belgium	137.20 pts.	
2. Erwin Vertriest	Netherlands	136.80 pts.	
3. Rudy Poelman	Netherlands	94.10 pts.	

Above, Boudewiju Park, Belgium, was the pleasant but cold venue for Belgium's first electric international. Below, the incredible de Witte self-righting and trimming system described in text.



from their approach and mine, going slowly seemed the only way to remain the right way up.

The de Witte boats were narrow-railed deltas of medium vee. On one side a watertight compartment was sealed off from the interior. Two holes were cut at deck level and one exit hole in the transom. If the boat flipped, water would flood this compartment, rolling the boat upright. When throttle was applied this water made a rapid exit through the transom hole. The rails ended at the transom, leaving 1in. of thin hull moulding protruding. This was split down the middle and fitted to form trim tabs.

Where does all this ingenuity come from? Well, it seems that the family business is constructing full-size boats.

The Keller 2k team was unfortunately not ready in time. Under more favourable conditions at the 1982 Schiedam International this boat did 35 laps 21 secs. in the hands of Christian Linder.

The +2k event was a terrific spectacle; 12 big, fast boats racing as close as Restricteds, on rough water. The Keller boat on a 100-5 and 3 x 30 x 1.6 amp/hr cells wired in parallel was clearly quickest. Manfred Schmidt's *Isotope* and Heinz Boucher's big *Multiamp* had a long dice for second. The *Multiamp* showed no sign of slowing, and by the end of the race was a match for the big Keller *Ruess*.

We have not yet seen this type of racing in the U.K. Dave Wooley is producing a 100-5/30 × 4D powered *Sigma* this year. Graeme Jones and Dave Selby have some big boats, and I may soon have a 4D, 100-4 Saft/Keller powered *Tido* on the water. These big boats are not unbeatable except on the exposed and rough water courses. They are a very interesting extreme of the wide electric boat spectrum, as expensive as a top i.c. boat but without the running costs.

Restricted is a U.K. dominated event and, sad to say, as sole representative, I let the side down this time. On full speed I was literally blown away by the wind. The opposition also suffered, but just kept popping upright again! John Bennett is coming with me to Schiedam and we will set the record straight again.

If you are wondering how we afford these trips the answer is 'period returns'. We left at 11 p.m. Friday, returning on Sunday night. The cost for a van and two people, Dover to Zeebrugge, is just £40 return.

After the event the prizegiving was held in one of the many Park facilities. Winners and losers all chose from a table laden with boats and bits, after the presentation. My choice was a beautiful Keller *Tornado* hull and Eugenia's was one of those amazing Dutch self-righting boats.

Our thanks must go to the organisers for their generosity and hospitality. We will be preparing some real green water-boats for next year.

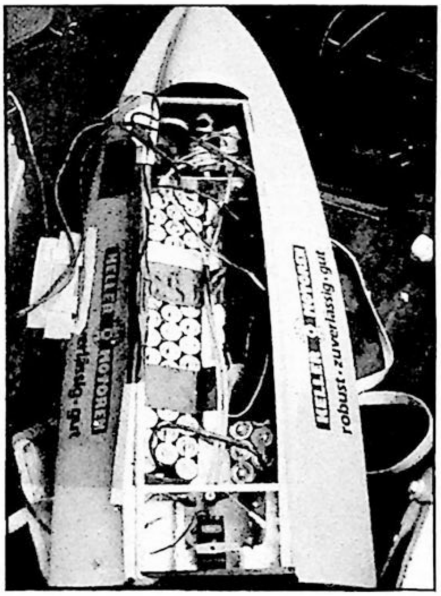
Nick Rees

* * *

Peterborough Area Model Boat Club — Celebration Regatta — April 23/24

Now that it has its own lake the club held what is to be the first of its annual regattas.

The purpose built lake of approximately four acres is at Tallington Leisure Park where harbours, obstacles and courses for the various classes have been established. Members have their own small clubhouse equipped with a mains power supply and the park supplies all facilities including licensed bar, snacks, etc. There is a caravan park adjacent the lake, and mobile homes are available for hire. There is to be no charge for entry into Tallington Park for those in possession of MPBA cards; all other persons will have to pay 25 per head. This is a legal requirement which ensures all visitors become temporary members of the club and able to make use of the licensed premises. Members are welcome to bring their own caravans and tents but should please mention that they are boaters.



Keller's mighty + 2kg boat featured a 100-5 motor and 3 × 30 × 1.6 amp/hr. cells wired in parallel. All Belgian photos by Mr. Rees.

Over the weekend we held the following events, starting at 1pm. On Saturday, scale steering, electric multi and speed steering. At sundown there was a Viennese event and barbecue, followed by an adult disco at the main clubhouse. The party which developed will be remembered for many a day. It was even noted that one visiting club were seen to be sailing, somewhat erratically at 3.30am!

On Sunday the celebration regatta took place commencing at 10am with the following classes: scale, stand-off, kit and exact (senior and junior), speed steering (senior and junior), electric multi and straight running. Special thanks to Keith Bowdry of KB Enterprises (the Model Shop) for the beautiful trophies.

An added attraction was the sea plane flying displays, slot car racing and displays given by other local clubs.

The start of the Sunday regatta was very subdued, being in a country park I can vouch that the dawn chorus is a very effective alarm clock.

Again we express our thanks to that lovely crowd from Welwyn Garden City who appeared as usual and gleefully leaped about with their straight runners.

Thanks also go to scale judges Messrs. John Docker and Ian Adcock for the marathon task they both undertook.

As a point of interest, though the scale marks were very high, many points were lost through erratic steering and sailing. We kept six-eight boats on the water at all times and most pilots got through two rounds, giving over 100 runs altogether.

The speed steering was run on available crystals; the 4 min. multi was run at lunchtime and at the end of the regatta some very exciting driving was seen. I wrote off another boat (must be a record).

We believe everyone had a great weekend.

Entries were: scale — 68, multi — 8, speed steering — 12.

Now we begin all over again and prepare for the next event on August 13/14, which is the qualifying round for the nationals. Hope to see you there.

Results

Speed steering
1st D. Waugh
2nd R. Gammon

Kit class
1st M. Henton
2nd M. Thorne
3rd P. Bilboa

Stand-off
1st P. Stevenson
2nd S. Adcock
3rd P. Davies

Multi
1st R. Folland
2nd I. Waugh
3rd P. Francis

Junior multi
1st I. Waugh

Exact scale
1st R. Dean
2nd A. Hobbs
3rd I. Broughton

Straight running
1st D. Willett Jr.
2nd G. Johnson Jr.

This was our first event at our new venue and in the future we look forward to meeting many new faces. If you have any queries please contact me on Peterborough (0733) 260502 or at the following address:

R. Dean, Secretary,
53 Smallwood,
Ravensthorpe,
Peterborough.

* * *

Scarborough North Yorkshire Multi-racing — May 15

With the helpful co-operation of Scarborough Council this event was able to take place on Scarborough Mere, a venue much used by rowing boats and a mock galleon during the holiday season, but until now one that had not witnessed the spectacle of multi-racing. The great asset of acquiring the use of a holiday amenity is the ready availability of all facilities, i.e. lakeside parking, with a café and toilets only a stone's throw away and a good footpath encircling this large lake.

Bridlington Model Boat Society and Scarborough Model Yacht and Boat Club combined their assets in order to bring about this event, which drew a good entry for a first attempt.

With some competitors travelling from far afield, the 1 hr. heats gave them the chance of plenty of time on the water. Jeff Benson, who journeyed from Dalton in Furness on the West coast to this East resort, was rewarded for his efforts with a well raced B class win, also achieving the most laps of the day in the process. Dave Marles once again showed how fast an A class boat can go, thoroughly enjoying the freedom a large lake can give a fast boat. Mark Pashley from Featherstone raised a few eyebrows by showing the way home to many geared boats with his second place in the A class, using a straight drive OS21.

After all the weeks of planning the event, it was rewarding to see it go so well. We now return the lake back to the holidaymakers and fishermen for the summer, but will be out in force again in 1984.

Results

Spark ignition
1st J. Barraclough........35cc Kawasaki/Phoenix

A Class
1st D. Marles, 132 laps............ Picco 21/Sigma
2nd M. Pashley, 114 laps...........OS21/Phantom
3rd J. Benson, 97 laps.............. Picco 21/Sigma

B Class
1st J. Benson, 157 laps..........OS40/Omega 50
2nd R. Daniel, 143 laps OPS40/Omega 40
3rd D. Marles, 136 laps OS40/Omega 50

C Class
1st J. Barraclough, 141 laps OPS90/Omega 90
2nd M. Pashley, 121 laps........Webra 61/Puma
3rd G. Lison ....60 laps OPS90/Omega 90

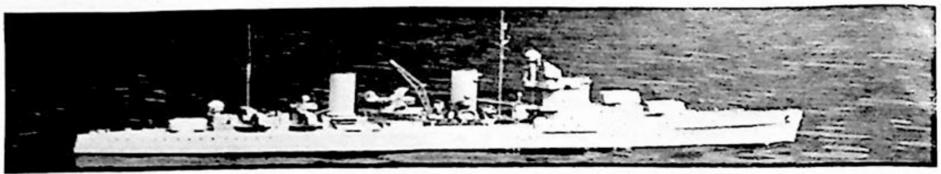
Robert Daniel

* * *

Sheffield Ship Model Society — Scale Steering Regatta — March 27, 1983

You have to be optimistic to hold a scale steering regatta at the end of March, even if it is officially spring! Sunday dawned cold, overcast, windy, but thankfully with no rain and as we laid out the course we all wondered if anyone else would turn up. A trickle of visitors started to arrive at 10am and we were surprised and delighted to record 48 entries for this event.

After briefing the sailing scorers, a task that should never be omitted, the event began a little after 11am. To many people the course may have looked somewhat familiar since we were using basically the same obstacles as in the '82 Scale Championships. However, there were subtle differences in layout and the orientation of these obstacles. Not that we were trying to make a clear round impossible, but aiming to produce a consistent level of difficulty at each obstacle, we like to experiment with new ideas at each event to avoid these regattas becoming stale and predictable. On this basis some of the 12 obstacles may have been harder than before but others were actually easier. In the end the biggest problem was not the course but the wind. We adjusted the first docking manoeuvre to give an extra 2in. (50mm), i.e. beam plus 8in., because of this wind, even so this dock took its toll of many competitors.



Third place at Sheffield Ship Model Society's Scale Regatta was Glynn Guest's cruiser H.M.S. Penelope.

Another change from previous years was the introduction of a 'no navigators' rule. We have encountered the situation where the competitor's 'helper' was actually giving all the sailing directions, sometimes from a position of advantage compared with the competitions. To avoid this situation getting out of hand we placed the test firmly upon the competitors' shoulders by banning assistance from any third parties whilst sailing.

Since yours truly was the designer of this course, guess who had to sail first? With a brand new model, only the second time on the water, it coped well with the wind to drop only four points. This seemed to set the standard for this event with many very good runs spoilt by odd 'accidents' usually due to the wind. We tried to keep two-three models sailing all the time, aiming to give the competitors two sailing runs on the course. However, numerous delays were encountered with flat batteries, 'duff' radios and other such gremlins holding up the proceedings. I realise that for many it may have been their first competition of the season but the lack of preparation displayed by some was amazing to see.

It was nice to see several new models and some old faithfuls sporting the results of a winter's refit. One of the latter was L. Hampshire's P&O ferry *MV Panther*, which now boasts several brave passengers on the decks; perhaps for greater realism ought they not to have their faces in a subtle green shade Les? Possibly the most impressive model was W. Richmond's *Kit Wing*, a cargo vessel of the 1960's with a length of about 8ft. and weighing in at some 100lb. By dint of fine sailing this monster managed to negotiate several obstacles which smaller models had trouble with.

At first it looked as if a clear round was going to elude everyone until B. Thomas's paddle tug *Chieftain* took to the water. The independent control of both side paddles made this model very manoeuvrable and realistic as it thrashed its way to the first clear round. A little later B. Allcock steered his *Bugsier 3* tug, kitted by Graupner, to the second clear round. Despite several valiant attempts no other competitors could equal their results.

By the time the last competitor had sailed it was mid-afternoon and a snap decision was taken not to attempt a second sailing round. Looking at frozen people around the pool suggested that we had made the right choice. This still left us with a sail off for first and second places and, after tossing a coin, the *Chieftain* sailed first. This time the course was sailed in the opposite direction and although it may have looked just the same as before it proved more difficult and the *Chieftain* dropped four points. The *Bugsier* also found it hard going and lost more than four points before completing the course to come second overall.

The trophies were presented by Ken Woolhouse, our club President, and the usual shields were supplemented by prizes ranging from a tube of glue for third place (I think there is a hint implied with this prize!) to a Humbrol Airbrush outfit for the first place. The society's 'Irving Mettam' trophy was also presented for the best performance by a club member, and not forgetting the junior trophy. The juniors may have been few in number but they all tried hard and showed a few seniors how it should be done.

Results

1st B. Thomas	paddle-tug *Chieftain*................	(100pt)
2nd B. Allcock	tug *Bugsier 3*............................	(100pt)
3rd G. Guest	Cruiser *HMS Penelope*............	(99pt)

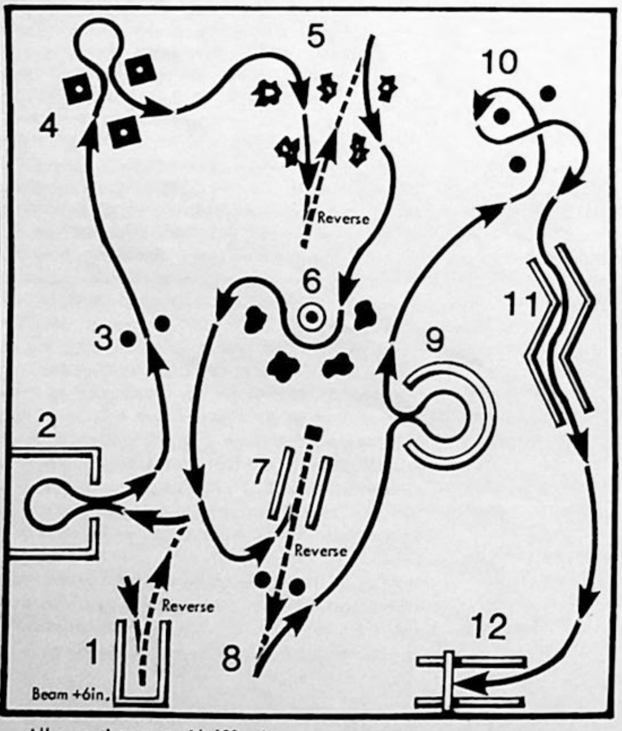
Irving Mettam trophy — G. Guest

It is often suggested that scale steering events are biased towards small highly manoeuvrable models but that was not so at this event. The top three models were of average size without a bow thruster or Kort nozzle in sight. Admittedly the *Chieftain* did have independent paddles but this was countered by its being the beamiest model entered. Reliability and a knowledge of the model's sailing characteristics appeared to be more important than technical ingenuity.

One thing we must aim for is greater reliability, it just isn't good enough to say "Well it worked all right the last time I used it," meaning several months ago. Still, it could have been worse since the following weekend it was snowing!

G. Guest

Sheffield Ship Model Society – Scale Sailing Course



OBSTACLES

1) DOCK, in to mark then reverse out.
2) DOCK, in, 180° turn then out.
3) BOUYS, stop between for 5 seconds, may touch bouys.
4) OIL RIGS, in, 180° turn, out.
5) ICEBERGS, through, reverse back and through again.
6) LIGHTHOUSE, around inside islands.
7) DOCK, in, touch bouy, reverse out.
8) BOUYS, reverse between.
9) LAGOON, in, 180° turn, out.
10) ISLANDS, through, around, through.
11) CANAL, straight through.
12) DOCK, in, move gauge into safe area.

All competitors start with 100 points.
Penalties .... each touch -1 point
each slide -3 points (significant movement of model whilst in contact with the obstacle).
each miss -5 points
failure to stop -5 points
Maximum points that can be lost at any obstacle is 10.
On leaving an obstacle the craft must re-enter at the position where it left.
No advice may be sought from anyone whilst sailing.

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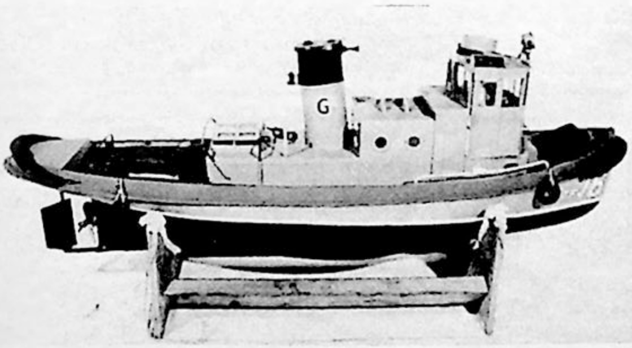

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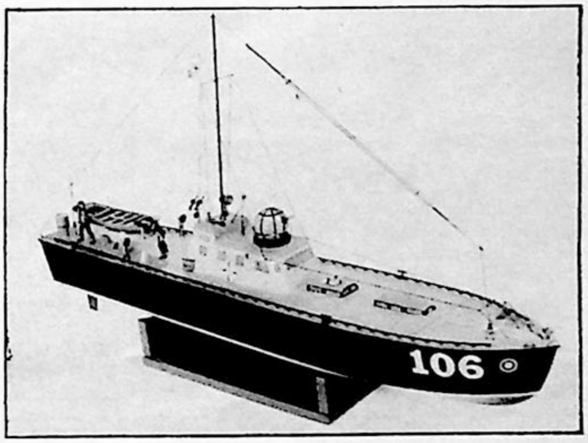

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LOGBOOK
Model Yachting Association News

NOTHING immediately earth-shattering emerged from the meeting of the IMYRU Executive Board on May 7, but a lot of routine run-of-the mill administrative discussion and decision took place. Items of general interest include an overwhelming postal vote in favour of three items referred to voting in this form by the last General Meeting. These were:

(a) Adoption of the Olympic scoring system for radio races.

(b) Amendment of IMYRU R/C rules to bring them into line with IYRU rules.

(c) Amendment of IMYRU Rule Appendix 1 Clause 1.3 regarding discards in R/C racing.

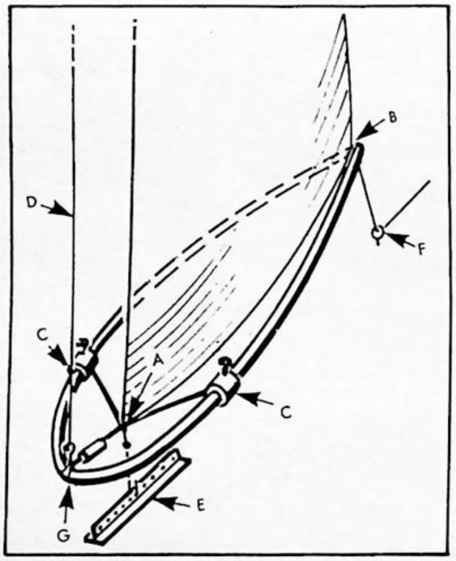
As the Olympic scoring system is incompatible with fleet racing, the EB has ruled that in all future IMYRU events the tournament system will be used. (As an aside, this will go a long way to removing one of the major disappointments of many younger national associations whose members entered a major event for the first time at Dunkirk last year. Many felt that they had had little chance to sail against top names and did not enjoy being stuck in C or D fleet for the entire event). The Racing Rules Officer is drawing up the amendments needed for (b) and will take the opportunity of including any amendments to the competition and racing rules which may be agreed in the near future. The New Zealand nominee for the Rating Rules Committee, by the way, is Mr. Fred Marten.

There was some further discussion on the last World Championships, including points raised by Mr. J. P. Dole Robb, who has kindly presented four boxes of photographic slides to the IMYRU. Although there have been some enquiries, no application has as yet been received to stage the next World Championships.

At the time of the meeting Argentina, Brazil, Germany, Hong Kong, Portugal, Spain, Switzerland and USA had not paid 1983 affiliation fees; two of these countries have put in preliminary entries to the European RM Championship in Sweden in August but these entries will be invalid if the countries are not affiliated. Brazil is in a possibly transitory phase at present and in Spain the original club which represented the country has passed on representation to the Federacion Espanola de Modelismo Naval, Mayor 16, Madrid 13. There is a new West German Club, Greece is considering affiliation, and a Spanish R/C Championships is to be held at Las Palmas (sorry, date unknown at moment). The Swedish meeting will be at Lake Ullna, 20km north of Stockholm, August 6-13 (European RM Championship) and the European Vane M Championship in the Recreation Park, Spaarnwoude (Nr. Amsterdam), Holland, is going ahead August 23-27.

A final draft of the proposed revision of the Marblehead Rating Rules is being sent out by July 31 for a straight yes or no vote by all affiliated countries, to be sent to Rating Rules Officer Chris Dicks by October 31. If the answer overall is yes, the rules will become effective January 1, 1984. In America a ballot is being taken among AMYA members to ascertain whether a majority is in favour of IMYRU affiliation.

New Zealand is possibly to run a Pacific Regional Championship in January 1985. Italy queried the use of mercury for ballasting (strongly disapproved by the EB due to its toxicity). The draft revision of the 6m rule by England is being progressed in the initial stages. A request has been made that the MYA insert the name of the country in the title, as used by all other countries. There were many other items of correspondence dealt with, but the above are the points of most general interest.



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Snippets

Those who sail 36R vane models again showed their keenness with an entry of 22 in the National Championship at Bournville on March 26/27. The weather was unkind — rain, a cold wind deflected by the trees on the north shore, plus occasional snow and hail on the Saturday, flat calm on Sunday but freshening to a good beat and run and even planing conditions later in the day. The dreaded Martin Roberts from Birkenhead won his first nationals (although still in his teens he has more sailing experience than most, having sailed models week in and week out since he could just walk!) beating his father (third) and last year's winner, Alex Austin (fifth). A battle among junior skippers for top junior resulted in a tie at 14th between Chris Harris (10) and Peter Stollery (nine) with Adam Taylor (13) and Robert Vice (11) not far behind. (Bournville, Guildford, Southgate and Clapham clubs respectively).

We understand that Alex Austin derived some consolation by winning the M Championship (Fleetwood, April 30/May 2) and coming fifth in his first RM Championship, (also Fleetwood, May 29/30) which was comfortably won by Norway's Torvald Klem with, we believe, John Cleave as runner-up, but no actual results or reports have been received for any of these events.

A sad occasion for model yachting is the retirement as a competitor in major races of Wally Jones of Birkenhead, with his inevitable mate, Bill Poole. Wally's first national championship entry was in 1933 and he has been a regular, successful and most sporting contestant in most of the national events in the intervening 50 years, not to mention district and club races. However, there is a limit to how long one can run after fast boats, and we gather that Wally and Bill feel that

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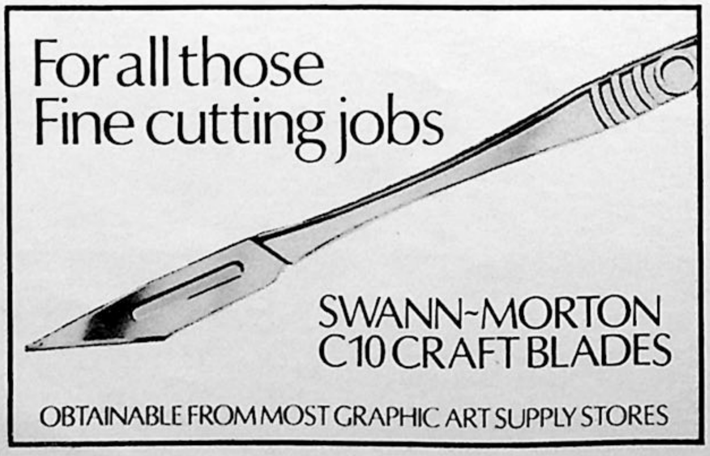


there is also limit to how often other competitors can be asked to intervene. Model yachting will still enjoy their company, officiating at races, and they will keep in touch by participating in the occasional club race.

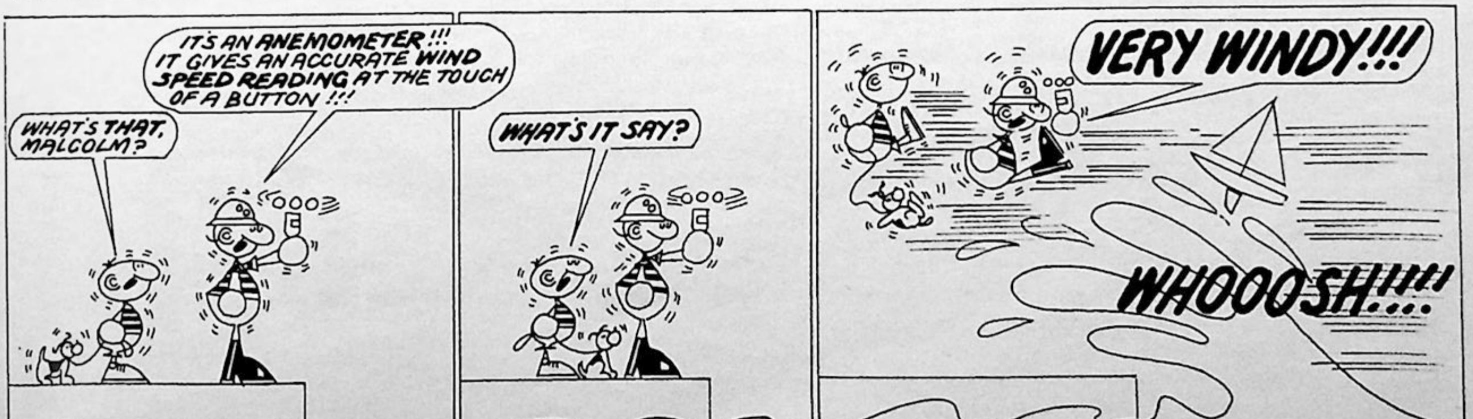
Wishbone Jib-boom

An interesting application of a wishbone boom on an RM by J. L. Perard appeared in a photo in a recent copy of the French magazine *Adepte*. It appears to be a piece of very light tube with a three-legged wire spider to which the jib tack is attached (A on sketch). The clew is clamped between the after ends at B and it would seem that the side legs of the spider are adjustable at C so that movement aft of their clamping collars would pinch the wishbone together and increase the AB measurement, i.e., adjust the sail flow. The jib foot can extend below the boom and there is no sideways hindrance to its adopting a perfect set. A pivot hook beneath the spider engages conventionally with a jib rack and the forestay at G provides see-saw luff tensioning. The front leg of the spider GA could be adjustable (a turnbuckle?) for additional permutations of set and the sheet F can be clamped at B or made adjustable along the wishbone in the same way as the thwartship spider legs.

These comments are conjectural but may spark off a train of thought. Wishbone booms are not new but Mons. Perard's application may well offer new advantages.

1983 MYA Regatta Calendar

Date	Event	Class	Venue
July			
2/3	Northern Dist. Championship and Northern Team Championship	A	Fleetwood
3	M.Y.A. National Championship	R36R	Chelmsford
3	Spastics Cup	RM	Gosport
3	Open Event	Duplex 575	Chiltern
9	Midland District Championship & MacDonald Trophy	10R	Birmingham
10	Met. & South Dist. Championship	RM	Hove & Brighton
10	Northern Dist. Championship	Mickey Finn	Leeds & Bradford
10	Turner Rose Bowl	36R	Bournville
10	Open Event	RM	South Wales
17	Met. & South Dist. Championship	A	Gosport
17	Northern Dist. Championship & Northern Team Championship & Fred Parkes Trophy	M	Cleethorpes
17	Wilkinson Sword Trophy	RM	New Forest
17	Avocet Trophy	RM	King's Lynn
24	Met. & South Team Championship	RM	Woodley
24	Windsor Trophy	R10R	Fleetwood
24	Thornhill Trophy	RM	Leicester
24	Nylet Trophy	R10R	Woodspring
31	Open Event	Mickey Finn	Ashton
31 to 5 Aug.	M.Y.A. National Championship & Yachting Monthly Trophy	A	Fleetwood
Aug.			
7	Cole Cup	R10R	Birkenhead
13	Open Event	RA	Fleetwood
14	Wyre Trophy	RA	Fleetwood
14	Cheddar Cheese	RM	Woodspring
21	Northern Dist. Championship & Northern Team Championship	RA	Birkenhead
21	Open Event	RM	Hereford & Worcs.
27	"T" Cup	RM	Birkenhead
29	Northern Dist. Jnr. Championship	RM	Birkenhead
29	Bilmor Cup	A	Gosport
Sept.			
4	Met. & South Dist. Championship	10R	M.Y.S.A.
4	S. Western Dist. Championship	RA	Woodspring
4	Rocket Trophy	RM	Cleveland
4	Brayford Trophy	RM	Lincoln
4	Belton Memorial Trophy	RM	Chelmsford
11	Midland District Championship	R10R	Lincoln
11	Model Maker Trophy	M	Bournville
11	Ladbrook Trophy	RA	Birkenhead
11	Laidlaw Dickson Trophy	RA & R10R	Poole
11	(L) Open Event	RM	Appledore
17	Wade Cup	"M"	Fleetwood
17	Lawrence Bowl	36R	Birmingham
17/18	M.Y.A. National Championship	RA	Guildford
18	St Leger Meet.	RM	Doncaster
18	(L) Woodhouse Trophy	"M"	Fleetwood
18	Wellworthy Trophy	RM	New Forest
24/25	M.Y.A. National Team Championship	"M"	Birmingham
25	Eastern District Championship	R10R	Kings Lynn
25	Spastics Cup	"A"	Gosport
25	Brian Bowman Trophy	RM	Woodspring
October			
2	Met & South Dist. Championship	RA	Poole
2	Met & South Team Championship & Eastbourne Cup	"M"	Eastborne
2	Peter Bryon Memorial Trophy	RM	Fleetwood
2	(L) Parks Cup	"A"	Birkenhead
2	Davison Shield	10R	Newcastle
2	(L) Whirlwind Trophy	RM	Leicester
8	Sandilands Cup	"M"	Birkenhead
8/9	M.Y.A. Champions Cup	RM	Leicester
9	Jack Roberts Trophy	"A"	Fleetwood
15/16	Midland District Championship	"A"	Birmingham
16	Northern District Championship	R10R	Cleveland
16	(L) Alice Elizabeth Noble Cup	"M"	Cleethorpes
16	(L) Elstead Cutter	36R	Guildford
16	Cheddar Cheese	RA & R10R	Woodspring
16	A.G.M. Open	RM	Dovercourt
22/23	M.Y.A. National Championship, Midland District Championship	6M	Bourneville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Model Power Boat Association News

Straight Running News from Don Hewett

The regatta programme certainly opened in the Southern Area, on May 1, with a splash! And one of the biggest was caused by Eric Allen, the Secretary of Harlow SR who, in the celebration of the first ever regatta by this newly formed club, took a quick bath in the Moorhen Lake, whilst he should have been 'stopping.' Something about loss of balance etc. and this on a Sunday before opening time. Whoever decided to use *Mayday* as the international distress call must have known something. The rest of the splashes were made by the rain which together with the wind, combined to make the conditions for some 30 brave souls, rather more than interesting. The results showed that Victoria members had taken 1.2.3 in Functional, and that Harlow had won the Team Relay with a 1 sec. error (wonder who did the timing). The lake was, on this occasion, shared by means of floating booms, with not only the children's rowing boats, but with a swarm of novice wind surfers, whose antics gave much enjoyment to everybody.

One week later and Barking Park was the venue for 40 entrants in the Mayesbrook Club's regatta. Here again the weather played a great part in determining the scores, with wind, rain, calm, sun, hail, permutating to give all four seasons at least twice in the one day. Scale Ships was run in a flat calm, whilst 10 min. later, Scale Boats battled a 'scale' force 9. Who said S/R was boring!

Due to a late start caused by the weather, the knockout had to be cancelled, but most of those who were there at the finish, had had quite enough, and it was a weary band who, in monsoon conditions, gathered for the quickest prize-giving on record.

Afterwards it was noted that the ladies had placed in all four of the Steering events, and the juniors in two.

I am not sure if this next item should be allowed in these notes, but as it was passed to me at a S/R regatta — here goes. Mayesbrook will be hosting the competition for the Kingfisher Trophy at Victoria Park on October 16. This is for teams of two or three tugs attempting to tow a hulk around a set course. Interested? Then phone Ted Percival on 01-517-0279 for further details.

The May issue of *Model Boats* caused quite a bit of interest especially in regard to the article on the *Streamlinia,* the boat produced by Bassett-Lowke back in the 30's. Many of the older members of my own club can remember this model and its performance as a steamer, and I can recall receiving one, but with a clockwork motor, as a present sometime during WWII. From the article and drawing given it would appear to fit the one metre class, and as this class is my particular interest, "enquiries are being made" as they say. Has anybody any gen they would like to pass on?

Now that 'when' and 'where' have been decided in regard to the Inter Area, some doubt has been raised as to 'If.' In view of a seemingly lack of interest in this event, the Hon. Gen. Secretary has written to section and area officers for their views. It would be a great pity if this annual get together of all the sections should fail through lack of interest. If you are prepared to take part in your area team, let your own area secretary know now, and I mean as soon as you get this issue, for the time for decision is all but past.

By the time you read these words the Grand will be a memory, the Nationals and hopefully the Inter Area only a few weeks in the future, and just on the horizon the shadow of the Section Conferences and Area AGM's. S/R's will again be meeting in Nottingham (comfortable seats and good food) so how about it? Your club secretary has the details.

During the course of the week I usually receive at least one letter and three-four phone calls, to do with S/R, and which go toward the items in these notes, these contacts however are all from clubs/members in the Southern Area, which promotes the question "Is there life north of Watford?" Have you a particular problem?, an axe to grind?, a good idea? You have! then let me know. After all these notes are for all interested in S/R and your news and views are important.

The General Secretary writes — Gregory Metcalf

I spent a few enjoyable hours yesterday afternoon at the Southern Area Speed Eliminators. This side of our hobby is now very depleted in contestants, there being only five seniors and one junior at the event. The event was held at the Ace club's water at Hoddesdon — convenient for me as it is only a couple of miles down the road. The weather was very good, surprising because I cleaned the windows in the morning which was I felt inviting trouble.

Ian Folkson turned in a time of 14.5 seconds in the FI V 15, which is a new record, (unless the Midlands or North have done better). One thing noticeable about speed boats is the nice clean condition they are kept in. Everything is clean and perfect and time is taken in getting them ready for their run.

On to more serious things. Approval of club waters. At every National Executive Committee meeting we have on the Agenda "Approval of Club Waters." The idea is that clubs ask us to visit their water and inspect it for safety and recommending what type of modelling could best be carried out. Although there are no hard and set rules it's basically commonsense. However over the years clubs have changed their activities, or found new waters or whatever. In addition the Multi Race Committee have come up with rules governing the safety of boats at regattas. These rules are in this year's Rule Book and are subject to discussion at the forthcoming Multi Race Conference.

So, taking into account all the factors above it was decided that we must do something about all the clubs with approved waters *and* those who have not bothered. The actual task of inspecting all waters was, it was felt, too large an undertaking. The ideal would be for every water to be individually inspected, but the clubs are spread all over the UK, thus involving long journeys to get to them and the expense involved, tying up NEC members' weekends for weeks on end, and the considerable time it would all take when at the most we could only inspect one water each weekend. It was therefore decided that there should be more onus put onto the club asking for water approval. After discussions a detailed form was prepared and each affiliated club will receive one of these forms. The form should be filled in and returned to the club's Area Secretary. From that information supplied we can approve club waters, putting in where necessary any recommendations as to the water's suitability. This is important because many waters are totally unsuitable for what is being run on them.

The important thing to remember is that if your club refuses to, or does not return the completed form than we will not accept their 1984 MPBA affiliation. Remember, we, the NEC are responsible for the clubs that are affiliated, and if anything goes wrong then we must take the responsibility. Failure on our part to ensure that clubs are using waters which may not be suitable for their type of boating, and any subsequent accident could lead to a heavy claim on the insurance. Any heavy claim could dramatically increase the yearly premium.

When it comes to safety the NEC will act as it thinks best and will override any rules to ensure that safety is given paramount importance.

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M.P.B.A. REGATTAS 1983

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SCOTTISH AREA

JULY	
10	SPRINGBURN. Multi Race Championships ½hr Area Eliminators.
24	"HIGHLAND 100" Details from J. Wilson, 41 Bruce Avenue, Inverness. This race is pre-entry.
AUGUST	
7	IRVINE. Multi, 4th leg Drivers Championship (hosts are Strathaven).
14	STRATHAVEN OR EDINBURGH. Scottish Scale Championship.
21	SPRINGBURN. Classic, Springburn, Glasgow. Pre-entry.
28	PAISLEY. Open Multi, Durristock Park.

All Multi event to start at 11.00 a.m. sharp. Pre-entry regattas will notify entrants of their start times.

CLUB SECRETARIES

IRVINE — I. Webb, 20 Barnett Crescent, Saltcoats, Ayreshire
SPRINGBURN — Mr. Heath, 14 Orchy Crescent, Airdrie.

NORTHERN AREA

JULY	
24	HULL. East Park, 30 minute Multi Racing and Speed, all classes. Pre-entry.
31	BOLTON. 'Metro Enduro', Multi Racing, A, B, C & SI, 1 hour races. £1.50 per boat
	BIRKENHEAD. Hydroplane regatta.
AUGUST	
7	HULL. East Park, Hydroplane regatta.
	SHEFFIELD. Millhouses Park. 11.00 a.m. start. RC Scale only (no Duplex). Static, Steering, including South Yorks Trophy. £1.00 per boat. *N.B.* This event is a Scale eliminator.
	LIVERPOOL. Walton Hall Park, 11.00 a.m. start. Electric, Scale and I.C. Steering, Straight Running and Nomination for Walton Hall, Trophy.
6/7	FEATHERSTONE. Pontefract Park, Multi Racing. Saturday: 'Pontefract 350', 3 man team race. £3.00 per team. 12.00 noon start. Sunday: Multi Racing, A, B, C & SI, 1 hour races. £1.00 per boat, 10.00 start.
14	CLEETHORPES. Sidney Park, Colin Wray Trophy, Scale Steering and Concours.
	MANCHESTER. Heaton Park, Multi Racing all classes. £1.50 per boat. 60 minute races.
21	BURNLEY. Burnley Trophy & Riddick Smith Trophy. Scale Steering and Docking. Static, at Clarence Lido, Burnley.
	HULL. East park, Tug Towing regatta.
	ROSES REGATTA. Batley Park.
20/21	SUNDERLAND. 2 day event. Saturday: Straight Running, Functional and Wedges. Sunday: RC Scale Steering. 1.00 p.m. start both days.
27/28	LEEDS. Roundhay Park. BRITISH GRAND PRIX. Multi Racing A, B, C & SI, 1 hour races.
29	LEEDS. Roundhay Park, Printers Gala, Multi Racing A, B, C & SI, 30 minute races, £1.00 per boat.

Names and Addresses for Pre-entry:
FEATHERSTONE — A. E. Muffitt, 26 Beaumont Street, Stanley, Wakefield.
BIRKENHEAD — June 5th event to: A. Graham, 4 Wirral Mount, Wallasey, Merseyside. *Northern Area ½hr. Eliminators* and July 17th event contact: M. D. Allen, 20 Kimberley Road, Wallasey. September 5th event to: B. Warburton, 4 Island Road, Liverpool.
SHEFFIELD — June 12th event to: L. Cropper, Rainbow Avenue, Hackenthorpe, Sheffield 12; October 2nd event to: R. Baines, 22 Barholm Road, Crosspool, Sheffield.
LEEDS — June 19th events to: T. Carr, 44 Cleasby Road, Menston. August 29th event to: D. Foster, 14 Derwentwater Ten, Headingly, Leeds 6.
MANCHESTER — August 14th event to: P. Kirk, 34 Appleton Road, Heaton Chapel, Stockport.
HULL — G. Lison, 28 Silverdale Road, Beverley Road, Hull, East Yorks.

MIDLAND AREA

JULY	
24	SOUTH CERNEY. Tethered Hydroplanes.
	LEICESTER. Open electric, Wanlip Park, pre-entry, 10.30 a.m. start, 75p.
AUGUST	
7	POTTERIES. Multi ½hr heats, A, B, C, Bagnel Trophy, West Port Lake, pre-entry, 10.00 a.m. start, 75p.
	LEICESTER. Open scale, Wanlip Park, 10.30 a.m. start, 75p.
13	DERBY. Carnival Open Scale Electric or Steam, Markeston Park, 10.30 a.m. start, 75p.
14	DERBY. Free running scale non-competition as 13th above.
	MIDLAND AREA HYDROPLANE CHAMPIONSHIPS at North Birmingham. Same Venue, multi racing, ½hr heats, A, B, C, & SI, Pre-entry, 10.30. 80p.
21	COVENTRY. Multi ½hr heats, A, B, C, Wyken Slough, pre-entry, 10.30 a.m. start, 70p.
	KINGSBURY. Open scale, pre-entry, 10.30 a.m. start, 75p.
28	POTTERIES. Open scale, Hanley Park, 10.30 a.m. start, 75p.
	LEICESTER. Open electric, Wanlip Park, pre-entry, 10.30 start, 75p.

Pre-entries & Enquiries with s.a.e. to:
COVENTRY: J. Benfold, 1 Roman Close, Claybrooke Magna, Lutterworth.
KINGSBURY: G. Lewis, 45 Roach Close, Chelmsley Wood, Birmingham.
LEICESTER: R. Folland, 17 Highgate Avenue, Birstall, Leicester.
POTTERIES: B. Mayer, 23 Sparrow Street, Smallthorne, Stoke-on-Trent.

Please note: Leicester electric open regattas are to be limited class 1E 8 × 1.2AH Ni-Cads, 540-550 type motor (unopened) Rx batteries to be carried. No speed control.

SOUTHERN AREA

JULY	
24	SOUTHEND. Southchurch Park, scale, stand off, 11.00 a.m. start, pre-entry preferred.
	MERTON. Rushmere Pond, Merton. Straight running, scale boats, scale ships, wedge, functional, 72dB at 6 metres, 50p per person.
31	HERTFORD. 'Red Baron 250' at Fairlands Valley, Stevenage. Multi, all classes, 10.00 a.m. start, Top 12 into final, no fuel restriction, final is 250 laps, £1.25 per boat. Pre-entry.
	WESSEX. Queens Park, Bournemouth. Scale, stand off, 11.00 a.m. start, 75p per boat
	HARLOW STRAIGHT RUNNERS. Moorhen Complex, Harlow, scale boats, scale ships, wedge, functional, 72dB at 6 metres, 12mph, 50p.
AUGUST	
7	HYDROPLANE CLUB. Bradwell Wick, Essex, all classes.
	EASTBOURNE. Princes Park Lake, classes A, B, C, with final for Alderman Taylor Trophy, 80dB, £1.00 per boat.
	HERTFORD. Fairlands Valley, Stevenage, scale regatta including Southern Area Scale Finals, 10.30 a.m. start, 75p per boat.
	VICTORIA. Victoria Park, Hackney, straight running, scale boats, scale ships, wedge, functional, also R/C scale & functional, 80dB at 5 metres, 25p per person.
14	NEW CLAPHAM. Clapham Long Pond, Clapham Common, classes A, B, C, ½hr heats, 85dB, 10.00 a.m. start, £1.00 per boat.
	CYGNETS. Mote Park, Maidstone, classes A, B, C, ½hr heats, 80dB, pre-entry, £1.00 per boat.
	MOORHEN. Moorhen Complex, Harlow, scale, semi-scale, 11.00 a.m. start, 50p per boat.
	WELWYN GARDEN CITY. Stanborough Lakes, Welwyn Garden City, straight running all classes, plus R/C all classes. 30p the first boat plus 10p each additional boat, 80dB at 5 metres, 11.00 a.m. start, 12mph.
21	MAYESBROOK. Wantz Park, Dagenham, classes A, B, C, ½hr heats, 80dB, 10.00 a.m. start, 75p per boat.
	VICTORIA. Victoria Park, Hackney. 11.00 a.m. start, scale boats, scale ships, wedge, functional, Tethered hydroplanes, classes A, B, C, D, E, 80dB at 10 metres, 25p per person.
27/28/29	INTERNATIONAL WEEKEND, ST. ALBANS. Verulamium Park, 27th — Hydroplanes, all classes, 11.00 a.m. start, 30 per boat, St. Albans Speed Trophy. 28th — straight running, all classes, 11.00 a.m. start, 12mph, 30p per boat. 29th — straight running, scale, functional, hydroplanes all classes, 11.00 a.m. start, 12mph. Scale radio control regatta on 29th. Suzor Porter Trophy.
28	SAXONS. 6 hour 3 man team event. Pre-entry.
	WESSEX. Marley Water, Hatch Pond Road, Fleetbridge, Poole. 1 hour endurance 80dB, for Bugle Trophy, 10.30 a.m. start, £1.25 per boat, Pre-entry.

Pre-entry Addresses:
CYGNETS — 575 regatta, D. Stephenson, 30 Valley View, Greenhithe, Kent. Multi, G. Parmenter, 47 Holland Road, Chatham, Kent.
SOUTHEND — E. Barwell, 82 Seamore Avenue, Benfleet, Essex.
WESSEX — J. Maber, 26 Hamilton Road, Hamworthy, Poole.
SAXONS — P. Martin, 13 Northern Road, Slough, Bucks.
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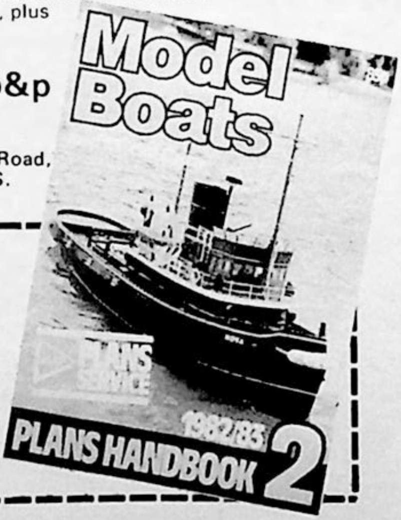

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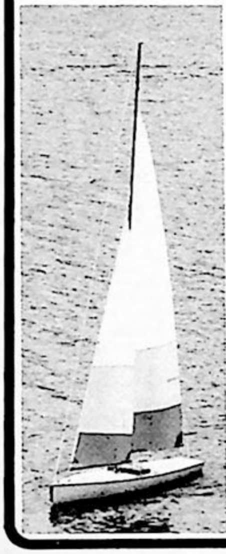

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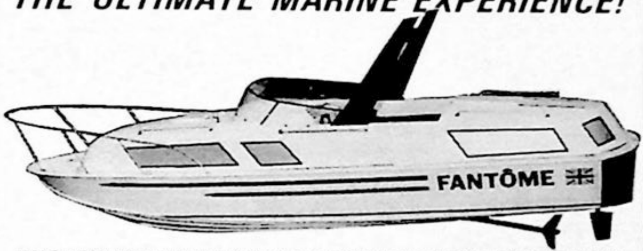

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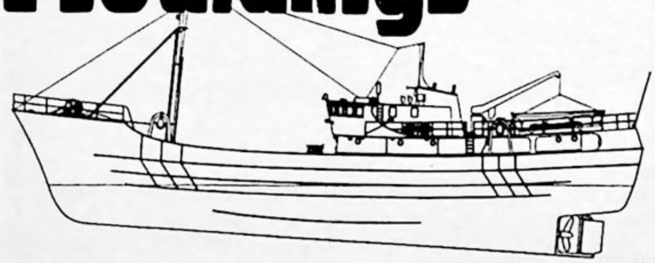

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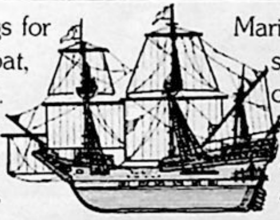

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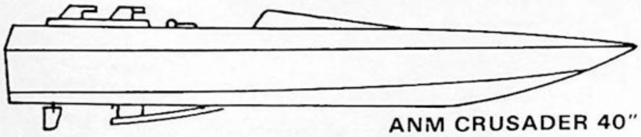

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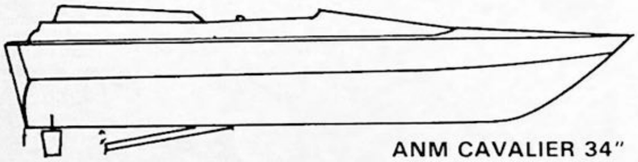

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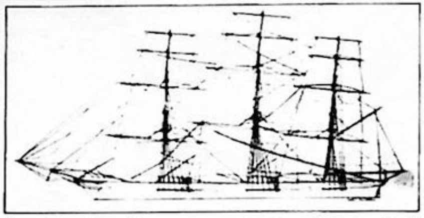

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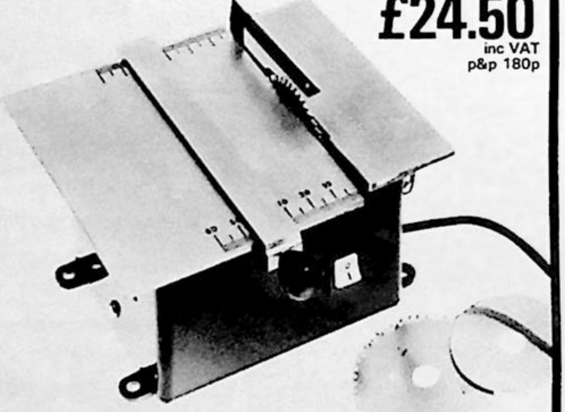

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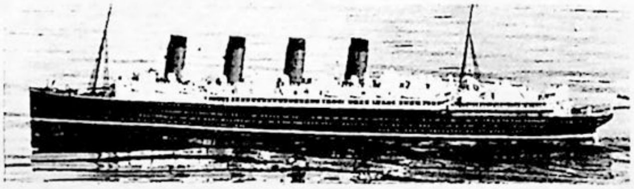

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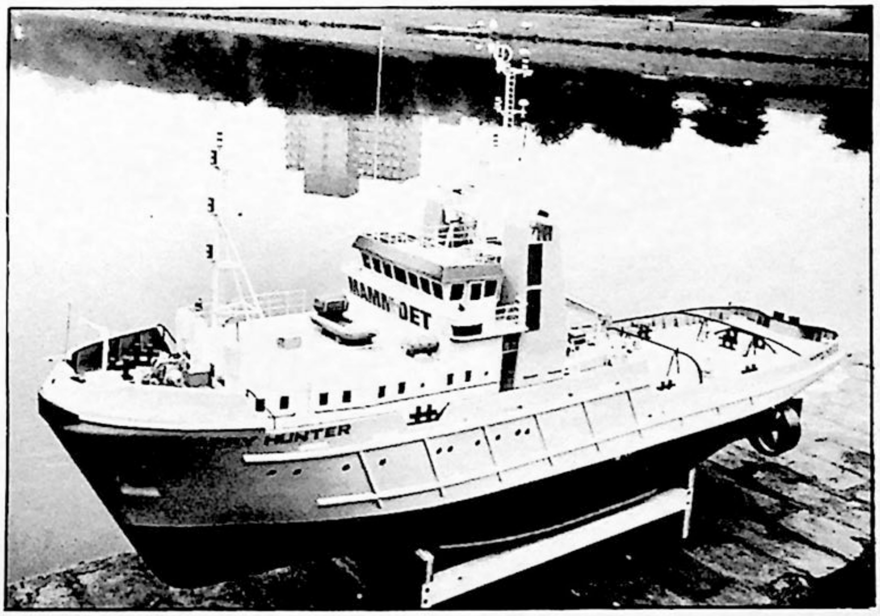

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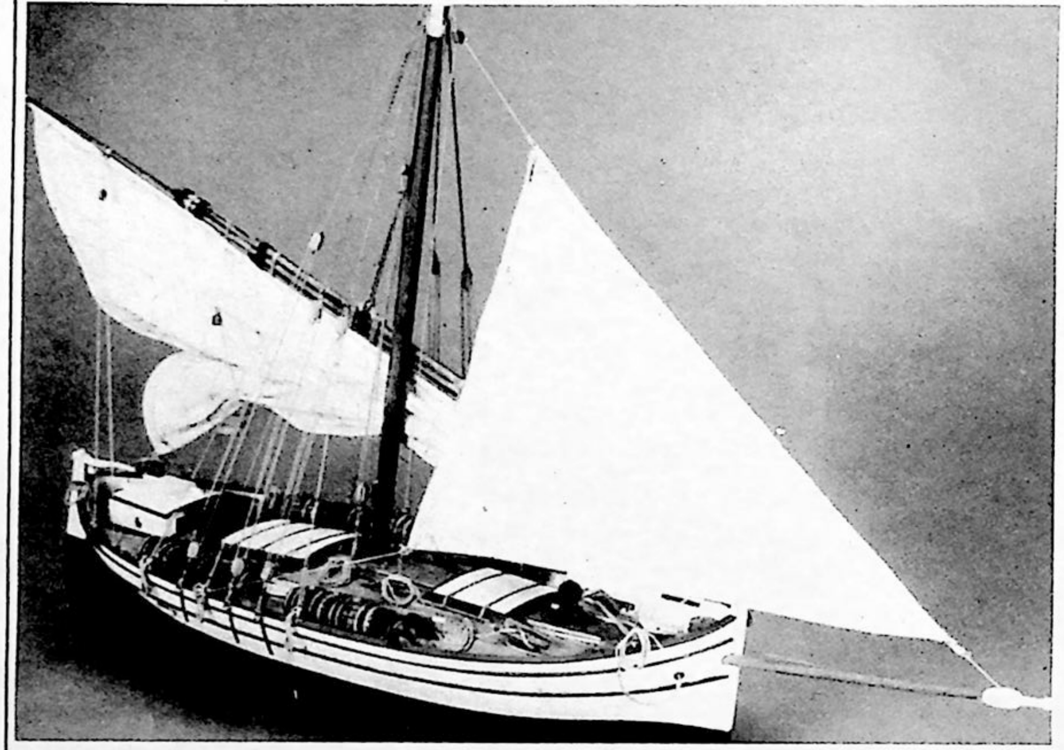

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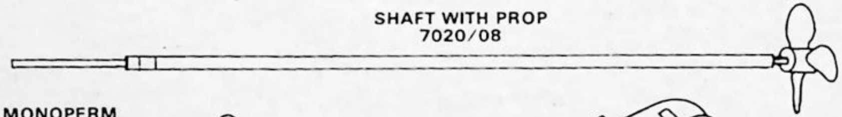

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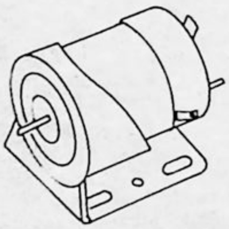

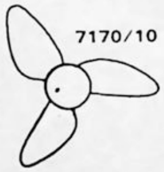

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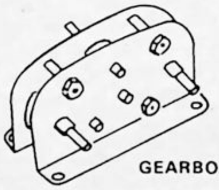

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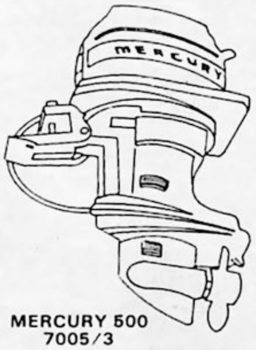

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